USPS Tracking: EI 120 650 351 US
October 28, 2021

New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico, 87505

RE: New Source Review (NSR) Permit
Bitter Lake Compressor Station, Chaves County, New Mexico
IACX Roswell LLC

Dear Air Quality Bureau,

IACX Roswell, LLC is seeking to authorize the Bitter Lake Compressor Station, located in Chaves County, New Mexico (Facility) under a New Mexico Environment Department (NMED) New Source Review (NSR) Permit.

With this registration, IACX Roswell LLC is seeking to authorize the following equipment and operations at the Facility:

- Two (2) 1414 hp Compressor Engines
- Two (2) 425 hp Compressor Stations
- One (1) Glycol Dehydrator
- Three (3) 100 bbl/day Condensate Tanks
- Condensate and Produced Water Loading
- Facility Fugitive Emissions
- Startup, Shutdown & Maintenance (SSM) activities
- Malfunctions

This application includes the following elements and their requsted supporting documentation:

- Universal Air Quality Permit Application
- Section 1 – General Facility Information
- Section 2 – Tables
- Section 3 – Application Summary
- Section 4 – Process Flow Sheet
- Section 5 – Plot Plan Drawn to Scale
- Section 6 – All calculations
- Section 7 – Information Used To Determine Emissions
- Section 8 – Maps
- Section 9 – Proof of Public Notice
- Section 10 – Written Description of the Routine Operations of the Facility

- Section 11 – Source Determination
- Section 13 – Determination of State & Federal Air Quality Regulations
- Section 16 – Air Dispersion Modeling
- Section 17 – Compliance Test History
- Section 22 – Certification
- Air Emissions Calculation Tool (AECT)
- Universal Application 4
- PDF of the entire application

Enclosed you will find one (1) hardcopy with original signed and notarized Registration package printed double sided 'head-to-toe' with 2-hole top punch binding, one (1) double sided hard copy, flip on long edge, and one compact disk (CD) with a single PDF of the application and all editable file components of the application.

A permit registration fee of $500 is enclosed via check #____.

Any clarification questions or requests for additional information can be directed to myself via email to jva@resolutecompliance.com or by phone at 972-842-4304 or Mr. Justin Wheeler via email to justinwheeler@iacx.com or by phone at 972-679-2147.

Kind Regards,

James VanAssche, P.E., C.H.M.M.

Vice President of Environmental Compliance

Encl: New Source Review (NSR) Application

Cc: Mr. Justin Wheeler – IACX Energy

Mail Application To:		**For Department use only:**
New Mexico Environment Department Air Quality Bureau Permits Section 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505 Phone: (505) 476-4300 Fax: (505) 476-4375 www.env.nm.gov/aqb		AIRS No.:

Universal Air Quality Permit Application

Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. See Section 1-I for submittal instructions for other permits.

This application is submitted as (check all that apply): ☐ Request for a No Permit Required Determination (no fee)
☐ **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).
Construction Status: ☐ Not Constructed ☒ Existing Permitted (or NOI) Facility ☐ Existing Non-permitted (or NOI) Facility
Minor Source: ☐ a NOI 20.2.73 NMAC ☐ 20.2.72 NMAC application or revision ☐ 20.2.72.300 NMAC Streamline application
Title V Source: ☐ Title V (new) ☐ Title V renewal ☐ TV minor mod. ☐ TV significant mod. TV Acid Rain: ☐ New ☐ Renewal
PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements:

☒ I acknowledge that a pre-application meeting is available to me upon request. ☐ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.

☒ $500 NSR application Filing Fee enclosed OR ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).

☒ Check No.: 1337 in the amount of 500.00

☒ I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.

☒ I acknowledge there is an annual fee for permits in addition to the permit review fee: www.env.nm.gov/air-quality/permit-fees-2/.

☐ This facility qualifies for the small business fee reduction per 20.2.75.11.C. NMAC. The full $500.00 filing fee is included with this application and I understand the fee reduction will be calculated in the balance due invoice. The Small Business Certification Form has been previously submitted or is included with this application. (Small Business Environmental Assistance Program Information: www.env.nm.gov/air-quality/small-biz-eap-2/.)

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.72.200.A NMAC**
(e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known (see 1st 3 to 5 #s of permit IDEA ID No.):14	Updating Permit/NOI #:
1	Facility Name: Bitter Lake Compressor Station	Plant primary SIC Code (4 digits): 1311	
		Plant NAIC code (6 digits):211130	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark):		
2	Plant Operator Company Name: IACX Roswell LLC	Phone/Fax: (972) 960-3219/ N/A	
a	Plant Operator Address: 5001 LBJ Freeway, Suite 300, Dallas, TX 75244		

b	Plant Operator's New Mexico Corporate ID or Tax ID:	
3	Plant Owner(s) name(s): IACX Roswell LLC	Phone/Fax: (972) 960-3219/ N/A
a	Plant Owner(s) Mailing Address(s): 5001 LBJ Freeway, Suite 300, Dallas, TX 75244	
4	Bill To (Company): IACX Roswell LLC	Phone/Fax: (972) 960-3219/ N/A
a	Mailing Address: 5001 LBJ Freeway, Suite 300, Dallas, TX 75244	E-mail: justinwheeler@iacx.com
5	■ Preparer: James VanAssche ■ Consultant : James VanAssche	Phone/Fax: 972-842-4304
a	Mailing Address: James VanAssche, 115 FM 2453, Suite A, Royse City, TX 75189	E-mail: jva@resolutecompliance.com
6	Plant Operator Contact: Justin Wheeler	Phone/Fax: (972) 679-2147/ N/A
a	Address: 5001 LBJ Freeway, Suite 300, Dallas, TX 75244	E-mail: justinwheeler@iacx.com
7	Air Permit Contact: Justin Wheeler	Title: Director of Environmental, Health and Safety
a	E-mail: justinwheeler@iacx.com	Phone/Fax: (972) 679-2147/ N/A
b	Mailing Address: 5001 LBJ Freeway, Suite 300, Dallas, TX 75244	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? ☒ Yes ☐ No	1.b If yes to question 1.a, is it currently operating in New Mexico? ☒ Yes ☐ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? ☐ Yes ☒ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☒ Yes ☐ No
3	Is the facility currently shut down? ☐ Yes ☒ No	If yes, give month and year of shut down (MM/YY):
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☐ Yes ☒ No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐Yes ☐No ☐N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☐ Yes ☒ No	If yes, the permit No. is:
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☒ No	If yes, the NPR No. is:
8	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☒ No	If yes, the NOI No. is:
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☐ Yes ☒ No	If yes, the permit No. is:
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☒ Yes ☐ No	If yes, the register No. is: 0274M7

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: 1.25 MMSCF/hr	Daily: 30 MMSCFD	Annually: 10,950 MMSCF/yr
b	Proposed	Hourly: 1.25 MMSCF/hr	Daily: 30 MMSCFD	Annually: 10,950 MMSCF/yr
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: 1.25 MMSCF/hr	Daily: 30 MMSCFD	Annually: 10,950 MMSCF/yr

b	Proposed	Hourly: 1.25 MMSCF/hr	Daily: 30 MMSCFD	Annually: 10,950 MMSCF/yr

Section 1-D: Facility Location Information

1	Section: 14	Range: 24 E	Township: 11S	County: Chaves	Elevation (ft): 3,558
2	UTM Zone: ☐ 12 or ☒ 13			Datum: ☒ NAD 27 ☐ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 556,550			UTM N (in meters, to nearest 10 meters): 3,712,770	
b	**AND** Latitude (deg., min., sec.): 33.553056			Longitude (deg., min., sec.): -104.390833	
3	Name and zip code of nearest New Mexico town: Roswell 88201				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary):				
5	The facility is 13.31 (distance) miles Northeast (direction) of Roswell (nearest town).				
6	Status of land at facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☐ Other (specify)				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated:				
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/aqb/modeling/class1areas.html)? ☒ Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers:				
9	Name nearest Class I area: Salt Creek Wilderness				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 1.80				
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure:				
12	Method(s) used to delineate the Restricted Area: "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.				
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? ☐ Yes ☒ No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.				
14	Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility?				

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

1	Facility **maximum** operating ($\frac{\text{hours}}{\text{day}}$): 24	($\frac{\text{days}}{\text{week}}$): 7	($\frac{\text{weeks}}{\text{year}}$): 52	($\frac{\text{hours}}{\text{year}}$): 8760		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start:	☐AM ☐PM	End:	☐AM ☐PM		
3	Month and year of anticipated start of construction:					
4	Month and year of anticipated construction completion:					
5	Month and year of anticipated startup of new or modified facility:					
6	Will this facility operate at this site for more than one year? ☒ Yes ☐ No					

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☒ No If yes, specify:		
a	If yes, NOV date or description of issue:		NOV Tracking No:
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes ☒ No If Yes, provide the 1c & 1d info below:		
c	Document Title:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		
2	Is air quality dispersion modeling or modeling waiver being submitted with this application? ☒ Yes ☐ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes ☒ No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☒ Yes ☐ No		
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☒ **Minor** (☐ <10 tpy of any single HAP **AND** ☒ <25 tpy of any combination of HAPS)		
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? ☐ Yes ☒ No		
a	If yes, include the name of company providing commercial electric power to the facility: _____ Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.		

Section 1-G: Streamline Application (This section applies to 20.2.72.300 NMAC Streamline applications only)

1	☐ I have filled out Section 18, "Addendum for Streamline Applications." **X** N/A (This is not a Streamline application.)

Section 1-H: Current Title V Information - Required for all applications from TV Sources

(Title V-source required information for all applications submitted pursuant to 20.2.72 NMAC (Minor Construction Permits), or 20.2.74/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMAC (Title V))

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC):		Phone:
a	R.O. Title:	R.O. e-mail:	
b	R. O. Address:		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC):		Phone:
a	A. R.O. Title:	A. R.O. e-mail:	
b	A. R. O. Address:		
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship):		
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.):		
a	Address of Parent Company:		
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.):		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:		

7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers:

Section 1-I – Submittal Requirements

Each 20.2.73 NMAC (**NOI**), a 20.2.70 NMAC (**Title V**), a 20.2.72 NMAC (**NSR** minor source), or 20.2.74 NMAC (**PSD**) application package shall consist of the following:

Hard Copy Submittal Requirements:

1) One hard copy **original signed and notarized application package** **printed double sided** **'head-to-toe'** **2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. Please include a copy of the check on a separate page.

2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This copy should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-to 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two** CD copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a single CD submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB's secure file transfer service.

Electronic files sent by (check one):

☒ CD/DVD attached to paper application

☐ secure electronic transfer. Air Permit Contact Name_____

Email_____

Phone number _____

a. If the file transfer service is chosen by the applicant, after receipt of the application, the Bureau will email the applicant with instructions for submitting the electronic files through a secure file transfer service. Submission of the electronic files through the file transfer service needs to be completed within 3 business days after the invitation is received, so the applicant should ensure that the files are ready when sending the hard copy of the application. The applicant will not need a password to complete the transfer. **Do not use the file transfer service for NOIs, any type of GCP, or technical revisions to NSR permits.**

4) Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD) following the instructions above and the instructions in 5 for applications subject to PSD review.

5) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** and/or electronic air dispersion modeling report, input, and output files. The dispersion modeling ***summary report only*** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.

6) If the applicant submits the electronic files on CD and the application is subject to PSD review under 20.2.74 NMAC (PSD) or NNSR under 20.2.79 NMC include,
   a. one additional CD copy for US EPA,
   b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
   c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

   If the application is submitted electronically through the secure file transfer service, these extra CDs do not need to be submitted.

Electronic Submittal Requirements [in addition to the required hard copy(ies)]:

1) All required electronic documents shall be submitted as 2 separate CDs or submitted through the AQB secure file transfer service. Submit a single PDF document of the entire application as submitted and the individual documents comprising the application.

2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible

format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.

3) It is preferred that this application form be submitted as 4 electronic files (3 MSWord docs: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and 1 Excel file of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

4) The electronic file names shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the core permit number (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the section # (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the header information throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision number (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. Do not use special symbols (#, @, etc.) in file names. The footer information should not be modified by the applicant.

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Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
C-891	Compressor Engine	Cooper Bessemer	GMVH-10C	48778	2250 hp	1414 hp	4/7/1981 11/15/1987	N/A C-891	20200202	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	2SLB	
C-893	Compressor Engine	Cooper Bessemer	GMVH-10C	48776	2250 hp	1391 hp	4/7/1981 12/1/1989	N/A C-893	20200202	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	2SLB	
C-894	Compressor Engine	CAT	3408C LE	BAZ02303	425 hp	425 hp	5/15/2006 TBD	N/A C-894	20200202	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	
C-895	Compressor Engine	CAT	3408C LE	BAZ00179	425 hp	425 hp	6/5/2002 TBD	N/A C-895	20200202	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	
BL-GDS-1	Glycol Dehydrator	Lakota	N/A	N/A	30 MMscf/d	30 MMscf/d	1/1/1980 1/1/1980	BL-GDR-1a N/A	31000301	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	
TK-1	Produced Water Tank	N/A	N/A	19428	100 bbl/day	100 bbl/day	1/2/2008 1/23/2008	N/A N/A	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced	N/A	
TK-2	Condensate/Produced Water Tank	N/A	1415	19349	100 bbl/day	100 bbl/day	1/17/2008 1/17/2008	N/A N/A	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced	N/A	
TK-2a	Condensate Tank	N/A	N/A	19342	100 bbl/day	100 bbl/day	1/16/2008 1/16/2008	N/A N/A	40400311	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced	N/A	
FUG	Facility Fugitive Emissions	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	31000220	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	
Load-1	Condensate Loading Emissions	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	40600132	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced	N/A	
Load-2	Produced Water Loading Emissions	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	40600132	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit X To Be Modified ☐ To be Replaced	N/A	
SSM	Startup, Shutdown, and Maintenance	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	310888811	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	
M	Malfunction	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	310888811	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	

[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.
[2] Specify dates required to determine regulatory applicability.
[3] To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.
[4] "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at https://www.env.nm.gov/wp-content/uploads/sites/2/2017/10/InsignificantListTitleV.pdf. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
BL-GDR-1a	Dehydrator Reboiler	Flameco	SB24-12 0509-415	0.75 MMBtu/hr	20.2.72.202.B.5 NMAC	1980 1980	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
BL-GDR-2b	Dehydrator Reboiler	Flameco	SB24-12 0411-688	0.75 MMBtu/hr	20.2.72.202.B.5 NMAC	1980 1980	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-3	Lube Oil Tank	N/A	N/A N/A	N/A N/A	20.2.72.202.B.2 NMAC	N/A N/A	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-6	Used Lube Oil Tank	N/A	N/A N/A	N/A N/A	20.2.72.202.B.2 NMAC	N/A N/A	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-10	Lube Oil Tank	N/A	N/A N/A	N/A N/A	20.2.72.202.B.2 NMAC	N/A N/A	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
TK-12	Used Lube Oil Tank	N/A	N/A N/A	N/A N/A	20.2.72.202.B.2 NMAC	N/A N/A	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
HRU	Helium Recovery Unit	N/A	N/A N/A	N/A N/A	20.2.72.202.B.5 NMAC	N/A N/A	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
Haul	Facility Haul Roads	N/A	N/A N/A	N/A N/A	20.2.72.202.B.5 NMAC	N/A N/A	X Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
PIG-TANK	Temporary Tank for Pigging Liquids	N/A	N/A N/A	N/A N/A	20.2.72.202.B.5 NMAC	N/A N/A	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

[1] Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.

[2] Specify date(s) required to determine regulatory applicability.

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B. In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
VRU	Vapor Recovery Unit	3/13/2009	VOCs and HAPs	TK-1, TK-2, Tk-2a	95% VOCs and HAPs	Manufacturer

[1] List each control device on a separate line. For each control device, list all emission units controlled by the control device.

Table 2-D: Maximum Emissions (under normal operating conditions)

☐ **This Table was intentionally left blank because it would be identical to Table 2-E.**

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
C-891	12.47	54.61	7.79	34.13	1.87	8.19	0.13	0.57	-	-	0.46	2.03	0.46	2.03	-	-	-	-
C-893	12.27	53.74	7.67	33.58	1.84	8.06	0.13	0.56	-	-	0.46	2	0.46	2	-	-	-	-
C-894	0.94	4.1	1.72	7.55	0.5	2.18	0.046	0.2	-	-	0.034	0.15	0.034	0.15	-	-	-	-
C-895	0.94	4.1	1.72	7.55	0.5	2.18	0.046	0.2	-	-	0.034	0.15	0.034	0.15	-	-	-	-
BL-GDS-1	-	-	-	-	16.56	72.53	-	-	-	-	-	-	-	-	-	-	-	-
TK-1	-	-	-	-	0.02	0.02	-	-	-	-	-	-	-	-	-	-	-	-
TK-2	-	-	-	-	19.3	84.52	-	-	-	-	-	-	-	-	-	-	-	-
TK-2a	-	-	-	-	4.27	18.67	-	-	-	-	-	-	-	-	-	-	-	-
FUG-1	-	-	-	-	0.76	3.35	-	-	-	-	-	-	-	-	-	-	-	-
Load-1	-	-	-	-	13.6	2.4	-	-	-	-	-	-	-	-	-	-	-	-
Load-2	-	-	-	-	0.14	0.02	-	-	-	-	-	-	-	-	-	-	-	-
SSM	-	-	-	-	*	10	-	-	-	-	-	-	-	-	*	1	-	-
M	-	-	-	-	*	10	-	-	-	-	-	-	-	-	*	1	-	-
Totals	26.62	116.55	18.9	82.81	59.36	222.12	0.352	1.53	-	-	0.988	4.33	0.988	4.33	*	2	-	-

[1]**Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but PM is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or $1.41E^{-4}$).

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
C-891	10.43	45.67	6.38	27.94	1.87	8.19	0.13	0.57	-	-	0.46	2.03	0.46	2.03	-	-	-	-
C-893	5.87	25.71	7.69	33.69	1.84	8.06	0.13	0.56	-	-	0.46	2	0.46	2	-	-	-	-
C-894	0.94	4.1	1.72	7.55	0.5	2.18	0.046	0.2	-	-	0.034	0.15	0.034	0.15	-	-	-	-
C-895	0.94	4.1	1.72	7.55	0.5	2.18	0.046	0.2	-	-	0.034	0.15	0.034	0.15	-	-	-	-
BL-GDS-1	-	-	-	-	0.41	1.81	-	-	-	-	-	-	-	-	-	-	-	-
TK-1	-	-	-	-	0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-
TK-2	-	-	-	-	0.96	4.22	-	-	-	-	-	-	-	-	-	-	-	-
TK-2a	-	-	-	-	0.21	0.93	-	-	-	-	-	-	-	-	-	-	-	-
FUG-1	-	-	-	-	0.76	3.35	-	-	-	-	-	-	-	-	-	-	-	-
Load-1	-	-	-	-	0.68	0.12	-	-	-	-	-	-	-	-	-	-	-	-
Load-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SSM	-	-	-	-	*	10	-	-	-	-	-	-	-	-	*	1	-	-
M	-	-	-	-	*	10	-	-	-	-	-	-	-	-	*	1	-	-
Totals	18.18	79.58	17.51	76.73	7.74	51.05	0.352	1.53	-	-	0.988	4.33	0.988	4.33	*	2	-	-

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

☐ This table is intentionally left blank since all emissions at this facility due to routine or predictable startup, shutdown, or scehduled maintenance are no higher than those listed in Table 2-E and a malfunction emission limit is not already permitted or requested. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanations of SSM emissions in Section 6 and 6a.

All applications for facilities that have emissions during routine our predictable startup, shutdown or scheduled maintenance (SSM)[1], including NOI applications, must include in this table the Maximum Emissions during routine or predictable startup, shutdown and scheduled maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). In Section 6 and 6a, provide emissions calculations for all SSM emissions reported in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (https://www.env.nm.gov/aqb/permit/aqb_pol.html) for more detailed instructions. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		PM[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
SSM	-	-	-	-	*	10	-	-	-	-	-	-	-	-	*	1	-	-
Totals	-	-	-	-	*	10	-	-	-	-	-	-	-	-	*	1	-	-

[1] **For instance**, if the short term steady-state Table 2-E emissions are 5 lb/hr and the SSM rate is 12 lb/hr, enter 7 lb/hr in this table. If the annual steady-state Table 2-E emissions are 21.9 TPY, and the number of scheduled SSM events result in annual emissions of 31.9 TPY, enter 10.0 TPY in the table below.

[2] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-G: Stack Exit and Fugitive Emission Rates for Special Stacks

X I have elected to leave this table blank because this facility does not have any stacks/vents that split emissions from a single source or combine emissions from more than one source listed in table 2-A. Additionally, the emission rates of all stacks match the Requested allowable emission rates stated in Table 2-E.

Use this table to list stack emissions (requested allowable) from split and combined stacks. List Toxic Air Pollutants (TAPs) and Hazardous Air Pollutants (HAPs) in Table 2-I. List all fugitives that are associated with the normal, routine, and non-emergency operation of the facility. Unit and stack numbering must correspond throughout the application package. Refer to Table 2-E for instructions on use of the "-" symbol and on significant figures.

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		PM		PM10		PM2.5		☐ H_2S or ☐ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals:																	

Table 2-H: Stack Exit Conditions

Unit and stack numbering must correspond throughout the application package. Include the stack exit conditions for each unit that emits from a stack, including blowdown venting parameters and tank emissions. If the facility has multiple operating scenarios, complete a separate Table 2-H for each scenario and, for each, type scenario name here:

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
Engine	C-891	Vertical	No	60.99	230	118			37.7	2.00
Engine	C-893	Vertical	No	60.99	230	114			36.4	2.00
Engine	C-894	Vertical	No	18.11	880	43			54.5	1.00
Engine	C-895	Vertical	No	18.11	880	43			54.5	1.00

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde X HAP		Acetaldehyde X HAP		Acrolein X HAP		Benzene X HAP		Ethylbenzene X HAP		n-Hexane X HAP		Toluene X HAP		Xylene X HAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
C-891	C-891	0.7	3.1	0.5	2.3	0.1	0.3	0.1	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C-893	C-893	0.7	3.1	0.5	2.3	0.1	0.3	0.1	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C-894	C-894	0.2	1.0	0.2	0.8	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C-895	C-895	0.2	1.0	0.2	0.8	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BL-GDS-1	BL-GDS-1	0.0	0.2	-	-	-	-	-	-	-	-	0.0	0.0	-	-	-	-	0.0	0.0
TK-1	TK-1	0.0	0.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TK-2	TK-2	0.1	0.3	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0
TK-2a	TK-2a	0.2	1.0	-	-	-	-	-	-	0.0	0.1	0.0	0.0	0.2	0.9	0.0	0.0	0.0	0.0
FUG-1	FUG-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Load -1	Load-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Load -2	Load-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SSM	SSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals:		2.2	9.7	1.4	6.2	0.2	0.9	0.2	0.8	0.1	0.2	0.0	0.0	0.3	1.3	0.0	0.1	0.0	0.1

Table 2-J: Fuel

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, …)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
C-891	Natural Gas	Pipeline Quality Natural Gas	1050		80.06		
C-893	Natural Gas	Pipeline Quality Natural Gas	1050		78.76		
C-894	Natural Gas	Pipeline Quality Natural Gas	1050		28.35		
C-895	Natural Gas	Pipeline Quality Natural Gas	1050		28.35		

Table 2-K: Liquid Data for Tanks Listed in Table 2-L

For each tank, list the liquid(s) to be stored in each tank. If it is expected that a tank may store a variety of hydrocarbon liquids, enter "mixed hydrocarbons" in the Composition column for that tank and enter the corresponding data of the most volatile liquid to be stored in the tank. If tank is to be used for storage of different materials, list all the materials in the "All Calculations" attachment, run the newest version of TANKS on each, and use the material with the highest emission rate to determine maximum uncontrolled and requested allowable emissions rate. The permit will specify the most volatile category of liquids that may be stored in each tank. Include appropriate tank-flashing modeling input data. Use additional sheets if necessary. Unit and stack numbering must correspond throughout the application package.

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
TK-1	40400311	Produced Water Tank	Water	0.0001847	18.313	65.6	0.3196	92.88	0.5887
TK-2	40400311	Condensate/Produced Water Tank	Mixed Hydrocarbons	0.0041704	48.127	65.6	12.03	92.88	11.8
TK-2a	40400311	Condensate Tank	Mixed Hydrocarbons	0.019418	51.887	65.6	12.03	92.88	11.8

Table 2-L: Tank Data

Include appropriate tank-flashing modeling input data. Use an addendum to this table for unlisted data categories. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.
See reference Table 2-L2. Note: 1.00 bbl = 10.159 M3 = 42.0 gal

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
TK-1	1/23/2008	Produced Water	N/A	Vertical-Fixed Roof (FX)	500		49.22	0.609	Beige	Beige	Average	511,000	24.33
TK-2	1/17/2008	Condensate/ Produced Water	N/A	Vertical-Fixed Roof (FX)	500		49.22	0.609	Beige	Beige	Average	511,000	24.33
TK-2a	1/16/2008	Condensate	N/A	Vertical-Fixed Roof (FX)	500		49.22	0.609	Beige	Beige	Average	511,000	24.33

Table 2-L2: Liquid Storage Tank Data Codes Reference Table

Roof Type	Seal Type, Welded Tank Seal Type		Seal Type, Riveted Tank Seal Type		Roof, Shell Color	Paint Condition
FX: Fixed Roof	**Mechanical Shoe Seal**	**Liquid-mounted resilient seal**	**Vapor-mounted resilient seal**	**Seal Type**	**WH**: White	Good
IF: Internal Floating Roof	**A**: Primary only	**A**: Primary only	**A**: Primary only	**A**: Mechanical shoe, primary only	**AS**: Aluminum (specular)	Poor
EF: External Floating Roof	**B**: Shoe-mounted secondary	**B**: Weather shield	**B**: Weather shield	**B**: Shoe-mounted secondary	**AD**: Aluminum (diffuse)	
P: Pressure	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**LG**: Light Gray	
					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

Note: 1.00 bbl = 0.159 M^3 = 42.0 gal

Table 2-M: Materials Processed and Produced (Use additional sheets as necessary.)

Material Processed				Material Produced			
Description	**Chemical Composition**	**Phase (Gas, Liquid, or Solid)**	**Quantity (specify units)**	**Description**	**Chemical Composition**	**Phase**	**Quantity (specify units)**
Field Gas				Helium, Condensate			

Table 2-N: CEM Equipment

Enter Continuous Emissions Measurement (CEM) Data in this table. If CEM data will be used as part of a federally enforceable permit condition, or used to satisfy the requirements of a state or federal regulation, include a copy of the CEM's manufacturer specification sheet in the Information Used to Determine Emissions attachment. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Stack No.	Pollutant(s)	Manufacturer	Model No.	Serial No.	Sample Frequency	Averaging Time	Range	Sensitivity	Accuracy

Table 2-O: Parametric Emissions Measurement Equipment

Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Unit No.	Parameter/Pollutant Measured	Location of Measurement	Unit of Measure	Acceptable Range	Frequency of Maintenance	Nature of Maintenance	Method of Recording	Averaging Time

Table 2-P: Greenhouse Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box ☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
C-891	**mass GHG**	1262.8	0.0024	0.024												
	CO_2e	1262.8	0.7152	0.6												
C-893	**mass GHG**	1242.28	0.0023	0.023												
	CO_2e	1242.28	0.6854	0.575												
C-894	**mass GHG**	84.96	1.59E-04	1.59E-03												
	CO_2e	84.96	4.74E-02	3.98E-02												
C-895	**mass GHG**	84.96	1.59E-04	1.59E-03												
	CO_2e	84.96	4.74E-02	3.98E-02												
BL-GDR-1a	**mass GHG**	46.06	8.68E-05	8.68E-04												
	CO_2e	46.06	2.59E-02	2.17E-02												
BL-GDR-2b	**mass GHG**	46.06	8.68E-05	8.68E-04												
	CO_2e	46.06	2.59E-02	2.17E-02												
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO2e															
Total	**mass GHG**	2767.12	0.0051916	0.051916												
	CO_2e	2767.12	1.5470968	1.2979												

[1] **GWP** (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

[2] For **HFCs** or **PFCs** describe the specific HFC or PFC compound and use a separate column for each individual compound.

[3] For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

[4] Green house gas emissions on a **mass basis** is the ton per year green house gas emission before adjustment with its GWP.

[5] **CO_2e** means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

Section 3

Application Summary

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will affect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

The **Process Summary** shall include a brief description of the facility and its processes.

Startup, Shutdown, and Maintenance (SSM) routine or predictable emissions: Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

IACX Roswell LLC (IACX) is submitting an application to transition their Bitter Lake Compressor Station (Bitter Lake) from a GCP O&G permit to an NSR. This is due to Bitter Lake Compressor Station being located within 3 miles of a Class I area, making it out of scope for a GCP O&G. The facility is a natural gas compressor station. Bitter Lake is located approximately 9.6 miles northeast of Roswell in Chaves County, New Mexico.

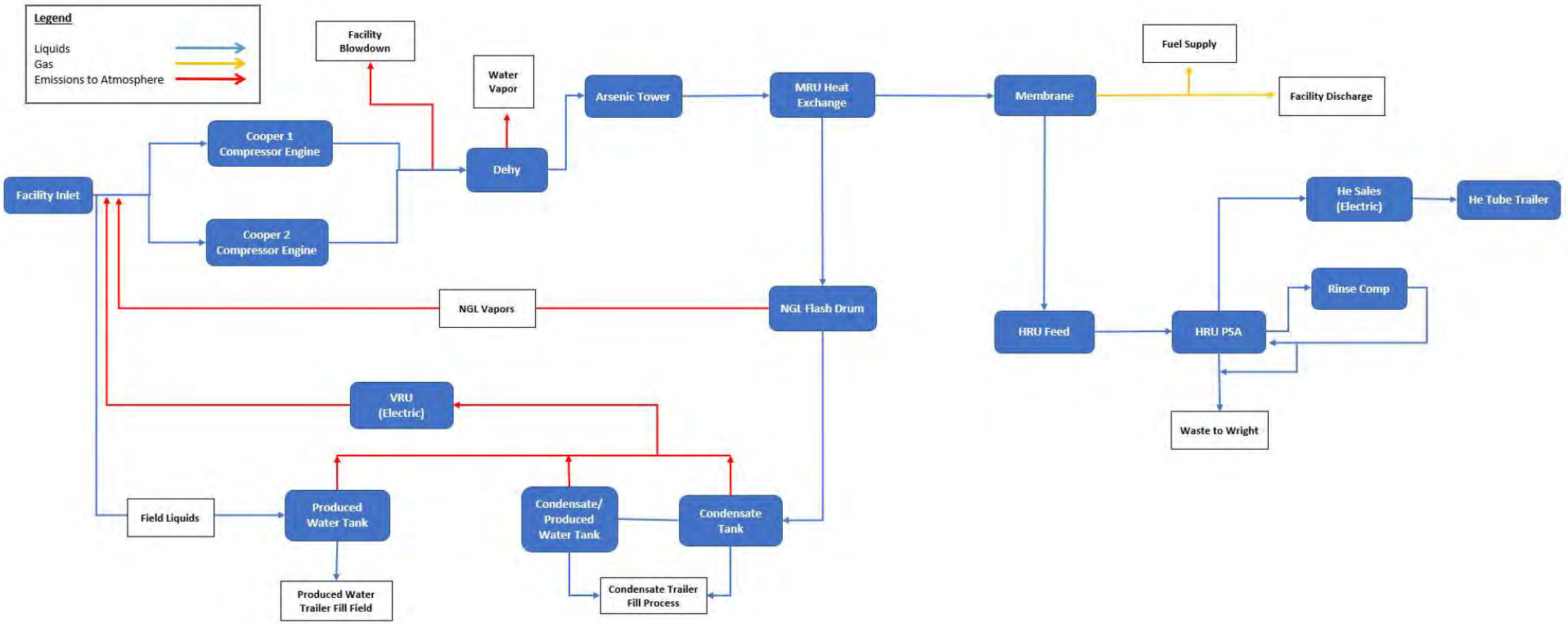
Bitter Lake is an extension of a local gas transportation system that gathers casinghead gas from multiple wells in the area. The facility compresses the gas for delivery to a main line. The site operates natural gas-fired engines (Units C-891, C-893, C-894, and C-895) to raise the discharge pressure of the gas in the pipeline to overcome the effect of frictional losses in the pipeline upstream of the station or from pressure losses/changes within the facility in order to maintain the required suction pressure at the next downstream facility. The volume of gas flowing and the amount of subsequent frictional losses in the pipeline are dependent on field conditions and downstream plant conditions causing pressure variations. The glycol dehydrator (Unit BL-GDS-1) has a capacity of 30 MMscf/day and the two associated reboilers operate a 0.75 MMBtu/hr (Units BL-GDR-1a and BL-GDR-2a). Only one of the two reboilers operates under normal operating conditions. The second reboiler may be used either as a backup unit or as a second unit in series to accommodate higher production rates and the resultant increased heat load on the glycol system. The helium recovery unit (Unit HRU) re-injects gas into the pipeline for further separation at another facility further downstream; therefore, there are no emissions associated with the unit. There are three condensate tanks located at the facility (Units TK-1, TK-2, and TK-2a), which contain hydrocarbons and water that drop out of the line prior to compression. There are associated loading emissions with the three condensate and produced water tanks (Unit Load-1 and Load-2). There are also lube oil tanks (Units TK-3 and TK-10) along with used lube oil tanks (Units TK-6 and TK-12).

Additional emissions result from facility-wide fugitives (Unit FUG), haul roads (Unit Haul), venting emissions during Startup, Shutdown, and Maintenance (Unit SSM), and Malfunction emissions (Unit M).

Section 4

Process Flow Sheet

A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.



RESOLUTE COMPLIANCE, LLC
Purposeful Solutions. Unwavering Service.

IACX Roswell LLC
Bitter Lake Compressor Station
Chavez County, NM

Project No. Env-IACX-Bitter Lake CS
Report No. NSR-0005
Date: October 2021

Process Flow Diagram

FIGURE 1

Section 5

Plot Plan Drawn To Scale

A **plot plan drawn to scale** showing emissions points, roads, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. This plot plan must clearly designate the restricted area as defined in UA1, Section 1-D.12. The unit numbering system should be consistent throughout this application.

GPS LOCATION
Lat / Long: 33.553056, -104.390833

0 125 feet 250 feet

SCALE APPROXIMATE, FOR REFERENCE ONLY. DO NOT SCALE.

RESOLUTE COMPLIANCE, LLC
Purposeful Solutions. Unwavering Service.

Client: IACX Roswell LLC
SITE: Bitter Lake Compressor Station
Chavez County, New Mexico
PLOT PLAN

Project No
Env-IACX-Bitter Lake CS NSR-0005

FIGURE 2

Section 6

All Calculations

Show all calculations used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

Tank Flashing Calculations: The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

SSM Calculations: It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM and/or Section 22 GHG Tables and the rational for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

Glycol Dehydrator Calculations: The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

Road Calculations: Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

Significant Figures:

A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.

B. At least 5 significant figures shall be retained in all intermediate calculations.

C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

(1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;

(2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**

(3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.

(4) The final result of the calculation shall be expressed in the units of the standard.

Control Devices: In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device

regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

AIR EMISSIONS CALCULATION TOOL

Instructions for Completing the Equipment Calculation Forms

1. Click the **Start Button** below to reset the form to begin data entry.

2. The ***Air Emissions Calculation Tool*** initially loads with the **Core Data Information Form.** Once all information is entered on this form, the necessary equipment calculation pages will be created based on the information entered on the Core Data Information Form. The customized ***Air Emissions Calculation Tool*** should now be saved to your computer before entering any other information on the equipment calculation pages. **Warning,** every time you click on the **Start Button b**elow, the ***Air Emissions Calculation Tool*** will reset and all data entered will be lost.

3. Green/Blue colored information boxes require users to enter the required information for the subject facility. Default values may be changed if not appropriate for the facility.

4. Yellow colored boxes represent calculated values based on user information entered and may not be changed.

5. Yellow boxes with green/blue cross-hatching represent calculated values based on user information entered, however users may input data in these boxes, if necessary.

Start

Core Data Information

Mandatory - All appropriate Data Must Be Entered For All Boxes Below. This Data Will Automatically Create All Required Equipment Forms And Populate This Data In All Emissions Calculation Forms.

Date Field	Aug 26, 2021			Permit/NOI/NPR Number	NSR 0274 and P-047
Company Name:	IACX Roswell LLC			Select Application Type	NSR
Facility Name:	Bitter Lake Compressor Station			AI# if Known	14
Max. Facility Gas Production	30,000	(Mscf/d)	1,250 (Mscf/h)	Elevation (ft.)	3,500
Max. Facility Oil Production	300	(BOPD)	12.5 (BOPH)	Sour Gas Streams at This Site?	NO
Max. Facility Produced Water		(BWPD)	(BWPH)		

Enter The Quantity Of All Air Emissions Sources Located At The Facility
(Leave Blank For Each Equipment Type That Is Not Present)

Equipment	Quantity	Equipment	Quantity
Amine Unit(s)		Compressor Engine (s)	4
Dehydrator(s)	1	Enclosed Combustion Device(s) (ECD)	
Equipment Fugitives	✓	Flare(s)	
Flash Tower/Ultra-Low Pressure Separator(s)^		Generator Engine (s)	
Gunbarrel Separator(s)/Tank(s)		Heater(s), Heater Treaters	
Number of Paved Haul Roads Segments		Number of Unpaved Haul Road Segments	1
Low Pressure Compressor(s)* & Compressor(s)*		Oil/Condensate Storage Tank(s)	3
Oil/Condensate Truck Loading	✓	Produced Water Storage Tank(s)	
Produced Water Truck Loading	✓	Pumpjack Engine(s)	
Reboilers(s) (Amine Units)		Placeholder for Future Use	
Reboilers(s) (Glycol, others)	1	Startup, Shutdown & Maintenance and Malfunction	✓
Skim Oil or Slop Oil Tank(s)		Thermal Oxidizer(s) (TO)	
Vapor Combustion Device(s) (VCU)		Vapor Recovery Unit(s) (VRU)^	1

Click Here to Generate Required Forms & Save to Your Computer

Complete all required forms that follow, for the equipment at the subject facility, based on the selections made above. Items with an * indicate an air emissions calculation form currently not required at this time and those with ^ indicate forms under construction at this time.

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Compressor Engines (100% Load) & Stationary & Non-Road Diesel (≤600hp & >600hp) & Gasoline Compressor Engines (≤600hp)

Enter data in green-shaded areas only! One engine per form unless like-kind engines

Emission Unit ID:	ENG 1
Engine Manufacturer:	Other
Engine Model:	GMVH-10C
Engine Serial #:	48778
Engine Manuf. Date:	4/7/1981
Engine Type:	2SLB
Factory HP Rating	1,414
Allowable HP Rating	1,414
Engine BSFC (Btu/(Hp*Hr))	6,785
Fuel LHV, (BTU/SCF)	1,020
Fuel Sulfur (grains/dscf)	0.002

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

Quantity of Like-kind Engines:	1
Engine Description	Compressor Engine
Hours/year	8,760
Fuel Type:	Field Gas

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.009406
Annual Fuel Flow Rate (MMSCF/yr)	82.39656
Maximum Engine RPM	1,000
Exhaust Temperature (°F)	230
Exhaust Velocity (ft/sec)	37.7
Exhaust Flow (ACFM)	7,105.93
Stack Diameter (ft)	2
Stack Height (ft)	61

Select Source of Emission Factors

- (•) AP-42 Emission Factors
- ( ) Manufacturer Specs (Enter Appropriate Emission Factors Below) or Diesel Tier 1, 2, 3 or 4
- ( ) NSPS JJJJ; Engine Manuf. Between July 1, 2007-June 30, 2010 & Engine HP≥500HP
- ( ) NSPS JJJJ; Engine Manuf. On or after July 1, 2010 & Engine HP≥500HP
- ( ) NSPS JJJJ; Engine Manuf. Between July 1, 2008-Dec. 31, 2010 & Engine HP 100≤HP<500
- ( ) NSPS JJJJ; Engine Manuf. on or after Jan.1, 2011 & Engine HP 100≤HP<500
- ( ) NSPS JJJJ; Eng. Manuf. Betw. Jan. 1, 2008-June 30, 2010 & LB Engine HP 500≤HP<1350
- ( ) NSPS JJJJ; Engine Manuf. on or after July 1, 2010 & LB Engine HP 500≤HP<1350
- ( ) NSPS JJJJ; Engines < 100HP (Enter Appropriate Emission Factors Below)
- ( ) NSPS IIII; Stationary Diesel Engines

Emission Factors, Catalyst Control Efficiency & Safety Factor						Uncontrolled Emissions		AP-42 Emissions		Controlled Emissions (includes SF)[1]	
Pollutant	Uncontrld. EF g/hp-hr	% Control Efficiency	% Safety Factor	Contrld EF g/(hp-hr)	AP-42 EF g/ hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx^	4	23.97	10	3.0411	9.7562	12.4691	54.6147	30.4128	133.2081	10.428	45.6746
CO	2.5	25.6	10	1.86	1.188	7.7932	34.1342	3.7033	16.2205	6.378	27.9356
VOC*	0.6	0	0	0.6	0.3693	1.8704	8.1924	1.1512	5.0423	1.8704	8.1924
Formaldehyde			0			0	0	0.5296	2.3196	0.5296	2.3196
TSP/PM10/PM2.5	0.1487	0	0	0.1487	0.1487	0.4635	2.0301	0.4635	2.0301	0.4635	2.0301
[2]SO_2	0.042	0	0	0.042	0.00181	0.130926	0.573456	0.005642	0.024712	0.130926	0.573456
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0552	NA	NA	NA	NA	0.52959	2.3196	NA	NA	NA	NA
Acetaldehyde	0.00776	NA	NA	NA	NA	0.07445	0.32609	NA	NA	NA	NA
Acrolein	0.00778	NA	NA	NA	NA	0.07464	0.32692	NA	NA	NA	NA
Benzene	0.00194	NA	NA	NA	NA	0.01861	0.08151	NA	NA	NA	NA
Ethylbenzene	0.000108	NA	NA	NA	NA	0.00104	0.00456	NA	NA	NA	NA
n-Hexane	0.000445	NA	NA	NA	NA	0.00427	0.0187	NA	NA	NA	NA
Toluene	0.000963	NA	NA	NA	NA	0.00924	0.04047	NA	NA	NA	NA
Xylene	0.000268	NA	NA	NA	NA	0.00257	0.01126	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.71441	3.12911	NA	NA	0.71	3.13

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI's & NPR, controlled emissions cannot be less than JJJJ emissions. [2] SO2 EF (grains/scf or ppm) except for AP-42 EF in g/hp-hr for SO2 & EF Values for NOx, CO, VOC, TSP/PM10/PM2.5 in lb/hp-hr for large gasoline & diesel engines. ^NOx+NMHC Emission Factors for diesel engines assume 75% NOx and 25% VOC

Calculation Tool for Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Compressor Engines (100% Load) & Large Stationary Diesel (≤600hp & >600hp) & Gasoline Compressor Engines (≤600hp) Emissions

AP-42 Gas-Fired Engine Emission factors based on AP-42, Tables 3.2-1, 3.2-2 & 3.2-3 (July 2000)
https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf
40 CFR Part 60 Subpart JJJJ Emission Factors based on §60.4233 & Table 1
http://www.ecfr.gov/cgi-bin/text-idx?node=sp40.7.60.jjjj
AP-42 Diesel & Gasoline Fired Engine Emission factors based on AP-42, Tables 3.3-1, 3.2-2, 3.4-1, 3.4-2, 3.4-3 & 3.4-4
https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf
40 CFR Part 60 Subpart IIII Emission Factors based on §60.4233 & Table 1
http://www.ecfr.gov/cgi-bin/text-idx?node=sp40.7.60.iiii
EPA Tier 1-4 Nonroad Compression Ignition Emission Standards (EPA-42--B-16-022)
https://nepis.epa.gov/Exe/ZyNET.exe/P100OA05.txt?ZyActionD=ZyDocument&Client=EPA&Index=2011%20Thru%202015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C11THRU15%5CTXT%5C00000019%5CP100OA05.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1

Emission factors for natural gas and field gas internal combustion engines may be based on AP-42, Tables 3.2-1, 3.2-2 or 3.2-3 or NSPS JJJJ emission standards or manufacturer specifications based on engine applicability.

NOx Sample Calculation Using AP-42 Emission Factors for a 500-HP 4-Stroke Rich Burn Engine

pph = NOx Emission Factor (EF) lb/MMBtu * Heat Value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * Allowable HP * 1/1000000 MMBtu/Btu
= 2.21 lb/MMBtu * 1020 Btu/scf/1020Btu/scf * 7500 MMBtu/hr *500 hp * 1/1000000 MMBtu/Btu
=8.29 lb/hr

tpy =NOx Emission Factor (EF) lb/MMBtu * Heat Value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * Allowable HP * 1/1000000 MMBtu/Btu * 8760 hrs/yr * 1/2000 tons/lbs
= 2.21 lb/MMBtu * 1020 Btu/scf/1020 Btu/scf * 0.5 MMBtu/hr * 1/1020 Btu/scf * 1000000/1 Btu/MMBtu * 8760 hrs/yr * 1ton/2000lbs
= 36.31 tpy

AP-42 SO_2 emissions based on 100% conversion of fuel sulfur to SO_2 and assumes sulfur content in natural gas of 2,000 grains/10^6 scf. The SO2 emission factor is converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf. For all other engines not using AP-42, The SO_2 emissions are based on grains S/scf. Fuel Heat values for Diesel = 0.137 MMBtu/gal; LPG = 0.0905 MMBtu/gal and Gasoline = 0.13 MMBtu/gal per AP-42 Appendix A, pg 5 & 6. SO2 emissions for all diesel engines not using AP-42, equals Gal Diesel/hr * diesel wt (lb)/gal * 15 ppm S * 64 lb SO2/32 lb S, where diesel weighs 7.1089 lb/gal.

NOx Sample Calculation Using NSPS JJJJ Emission Factors for a July 1, 2010 500-HP 4-Stroke Rich Burn Engine

pph = NOx Emission Factor (EF) g/hp-hr * 1/453.6 lbs/grams * Allowable HP
= 1 g/hp-hr * 1/453.6 lbs/grams * 500 hp
= 1.1 lb/hr

tpy =NOx Emission Factor (EF) g/hp-hr * 1/453.6 lbs/grams * Allowable HP * 8760 hrs/yr * 1/2000 tons/lbs
= 1 g/hp-hr * 1/453.6 lbs/grams * 500 hp * 8760 hrs/yr * 1ton/2000lbs
= 4.82 tpy

Technical Disclaimer
This document is intended to help you accurately determine stationary compressor engine emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how these units work and how they generate emissions, how they are monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of stationary compressor engine emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Compressor Engines (100% Load) & Stationary & Non-Road Diesel (≤600hp & >600hp) & Gasoline Compressor Engines (≤600hp)

Enter data in green-shaded areas only! One engine per form unless like-kind engines

Emission Unit ID:	ENG 2
Engine Manufacturer:	Other
Engine Model:	GMVH-10C
Engine Serial #:	48776
Engine Manuf. Date:	4/7/1981
Engine Type:	2SLB
Factory HP Rating	1,391
Allowable HP Rating	1,391
Engine BSFC (Btu/(Hp*Hr))	6,785
Fuel LHV, (BTU/SCF)	1,020
Fuel Sulfur (grains/dscf)	0.002

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

Quantity of Like-kind Engines:	1
Engine Description	Compressor Engine
Hours/year	8,760
Fuel Type:	Field Gas

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.009253
Annual Fuel Flow Rate (MMSCF/yr)	81.05628
Maximum Engine RPM	1,000
Exhaust Temperature (°F)	230
Exhaust Velocity (ft/sec)	36.4
Exhaust Flow (ACFM)	6,862.5
Stack Diameter (ft)	2
Stack Height (ft)	61

Select Source of Emission Factors

- (•) AP-42 Emission Factors
- ( ) Manufacturer Specs (Enter Appropriate Emission Factors Below) or Diesel Tier 1, 2, 3 or 4
- ( ) NSPS JJJJ; Engine Manuf. Between July 1, 2007-June 30, 2010 & Engine HP≥500HP
- ( ) NSPS JJJJ; Engine Manuf. On or after July 1, 2010 & Engine HP≥500HP
- ( ) NSPS JJJJ; Engine Manuf. Between July 1, 2008-Dec. 31, 2010 & Engine HP 100≤HP<500
- ( ) NSPS JJJJ; Engine Manuf. on or after Jan.1, 2011 & Engine HP 100≤HP<500
- ( ) NSPS JJJJ; Eng. Manuf. Betw. Jan. 1, 2008-June 30, 2010 & LB Engine HP 500≤HP<1350
- ( ) NSPS JJJJ; Engine Manuf. on or after July 1, 2010 & LB Engine HP 500≤HP<1350
- ( ) NSPS JJJJ; Engines < 100HP (Enter Appropriate Emission Factors Below)
- ( ) NSPS IIII; Stationary Diesel Engines

Emission Factors, Catalyst Control Efficiency & Safety Factor						Uncontrolled Emissions		AP-42 Emissions		Controlled Emissions (includes SF)[1]	
Pollutant	Uncontrld. EF g/hp-hr	% Control Efficiency	% Safety Factor	Contrld EF g/(hp-hr)	AP-42 EF g/ hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx^	4.001	52.16	0	1.914	9.7562	12.2694	53.74	29.9182	131.0417	5.8694	25.708
CO	2.5	-0.32	0	2.5079	1.188	7.6664	33.5788	3.6431	15.9568	7.6907	33.6853
VOC*	0.6	0	0	0.6	0.3693	1.8399	8.0588	1.1325	4.9604	1.8399	8.0588
Formaldehyde			0			0	0	0.521	2.282	0.521	2.282
TSP/PM10/PM2.5	0.1487	0	0	0.1487	0.1487	0.456	1.9973	0.456	1.9973	0.456	1.9973
[2]SO_2	0.042	0	0	0.042	0.00181	0.128796	0.564126	0.005551	0.024313	0.128796	0.564126
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0552	NA	NA	NA	NA	0.52097	2.28185	NA	NA	NA	NA
Acetaldehyde	0.00776	NA	NA	NA	NA	0.07324	0.32079	NA	NA	NA	NA
Acrolein	0.00778	NA	NA	NA	NA	0.07343	0.32162	NA	NA	NA	NA
Benzene	0.00194	NA	NA	NA	NA	0.01831	0.0802	NA	NA	NA	NA
Ethylbenzene	0.000108	NA	NA	NA	NA	0.00102	0.00447	NA	NA	NA	NA
n-Hexane	0.000445	NA	NA	NA	NA	0.0042	0.0184	NA	NA	NA	NA
Toluene	0.000963	NA	NA	NA	NA	0.00909	0.03981	NA	NA	NA	NA
Xylene	0.000268	NA	NA	NA	NA	0.00253	0.01108	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.70279	3.07822	NA	NA	0.7	3.08

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI's & NPR, controlled emissions cannot be less than JJJJ emissions. [2] SO2 EF (grains/scf or ppm) except for AP-42 EF in g/hp-hr for SO2 & EF Values for NOx, CO, VOC, TSP/PM10/PM2.5 in lb/hp-hr for large gasoline & diesel engines. ^NOx+NMHC Emission Factors for diesel engines assume 75% NOx and 25% VOC

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Compressor Engines (100% Load) & Stationary & Non-Road Diesel (≤600hp & >600hp) & Gasoline Compressor Engines (≤600hp)

Enter data in green-shaded areas only! One engine per form unless like-kind engines

Emission Unit ID:	ENG 3
Engine Manufacturer:	Caterpillar
Engine Model:	3408C LE
Engine Serial #:	BAZ02303
Engine Manuf. Date:	5/15/2006
Engine Type:	4SLB
Factory HP Rating	425
Allowable HP Rating	425
Engine BSFC (Btu/(Hp*Hr))	7,995
Fuel LHV, (BTU/SCF)	1,020
Fuel Sulfur (grains/dscf)	0.002

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

Quantity of Like-kind Engines:	1
Engine Description	Compressor Engine
Hours/year	8,760
Fuel Type:	Field Gas

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.003331
Annual Fuel Flow Rate (MMSCF/yr)	29.17956
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	880
Exhaust Velocity (ft/sec)	54.5
Exhaust Flow (ACFM)	2,570
Stack Diameter (ft)	1
Stack Height (ft)	18.1

Select Source of Emission Factors

- (•) AP-42 Emission Factors
- ( ) Manufacturer Specs (Enter Appropriate Emission Factors Below) or Diesel Tier 1, 2, 3 or 4
- ( ) NSPS JJJJ; Engine Manuf. Between July 1, 2007-June 30, 2010 & Engine HP≥500HP
- ( ) NSPS JJJJ; Engine Manuf. On or after July 1, 2010 & Engine HP≥500HP
- ( ) NSPS JJJJ; Engine Manuf. Between July 1, 2008-Dec. 31, 2010 & Engine HP 100≤HP<500
- ( ) NSPS JJJJ; Engine Manuf. on or after Jan.1, 2011 & Engine HP 100≤HP<500
- ( ) NSPS JJJJ; Eng. Manuf. Betw. Jan. 1, 2008-June 30, 2010 & LB Engine HP 500≤HP<1350
- ( ) NSPS JJJJ; Engine Manuf. on or after July 1, 2010 & LB Engine HP 500≤HP<1350
- ( ) NSPS JJJJ; Engines < 100HP (Enter Appropriate Emission Factors Below)
- ( ) NSPS IIII; Stationary Diesel Engines

Emission Factors, Catalyst Control Efficiency & Safety Factor						Uncontrolled Emissions		AP-42 Emissions		Controlled Emissions (includes SF)[1]	
Pollutant	Uncontrld. EF g/hp-hr	% Control Efficiency	% Safety Factor	Contrld EF g/(hp-hr)	AP-42 EF g/ hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx^	1	0	0	1	14.7963	0.9369	4.1036	13.8634	60.7217	0.9369	4.1036
CO	1.84	0	0	1.84	1.1496	1.724	7.5511	1.0771	4.7177	1.724	7.5511
VOC*	0.53	0	0	0.53	0.4279	0.4966	2.1751	0.4009	1.7559	0.4966	2.1751
Formaldehyde			0			0	0	0.1794	0.7858	0.1794	0.7858
TSP/PM10/PM2.5	0.0362	0	0	0.0362	0.0362	0.0339	0.1485	0.0339	0.1485	0.0339	0.1485
[2]SO_2	0.0479	0	0	0.0479	0.002132	0.04488	0.196574	0.001998	0.008751	0.04488	0.196574
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0528	NA	NA	NA	NA	0.17941	0.78582	NA	NA	NA	NA
Acetaldehyde	0.00836	NA	NA	NA	NA	0.02841	0.12444	NA	NA	NA	NA
Acrolein	0.00514	NA	NA	NA	NA	0.01747	0.07652	NA	NA	NA	NA
Benzene	0.00044	NA	NA	NA	NA	0.0015	0.00657	NA	NA	NA	NA
Ethylbenzene	0.0000397	NA	NA	NA	NA	0.00013	0.00057	NA	NA	NA	NA
n-Hexane	0.0011	NA	NA	NA	NA	0.00374	0.01638	NA	NA	NA	NA
Toluene	0.000408	NA	NA	NA	NA	0.00139	0.00609	NA	NA	NA	NA
Xylene	0.000184	NA	NA	NA	NA	0.00063	0.00276	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.23268	1.01915	NA	NA	0.23	1.02

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI's & NPR, controlled emissions cannot be less than JJJJ emissions. [2] SO2 EF (grains/scf or ppm) except for AP-42 EF in g/hp-hr for SO2 & EF Values for NOx, CO, VOC, TSP/PM10/PM2.5 in lb/hp-hr for large gasoline & diesel engines. ^NOx+NMHC Emission Factors for diesel engines assume 75% NOx and 25% VOC

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Non-Emergency SI Rich Burn, Lean Burn & Clean Burn Natural Gas Fired Compressor Engines (100% Load) & Stationary & Non-Road Diesel (≤600hp & >600hp) & Gasoline Compressor Engines (≤600hp)

Enter data in green-shaded areas only! One engine per form unless like-kind engines

Emission Unit ID:	ENG 4
Engine Manufacturer:	Caterpillar
Engine Model:	3408C LE
Engine Serial #:	BAZ00179
Engine Manuf. Date:	6/5/2002
Engine Type:	4SLB
Factory HP Rating	425
Allowable HP Rating	425
Engine BSFC (Btu/(Hp*Hr))	7,995
Fuel LHV, (BTU/SCF)	1,020
Fuel Sulfur (grains/dscf)	0.002

Engine Deration

- (•) No Deration
- ( ) Stationary - Naturally Aspirated
- ( ) Stationary - Turbo Aspirated
- ( ) Portable - Naturally Aspirated
- ( ) Portable - Turbo Aspirated

Quantity of Like-kind Engines:	1
Engine Description	Compressor Engine
Hours/year	8,760
Fuel Type:	Field Gas

No Deration.

Notes:

Hourly Fuel Flow Rate (MMSCF/hr)	0.003331
Annual Fuel Flow Rate (MMSCF/yr)	29.17956
Maximum Engine RPM	1,800
Exhaust Temperature (°F)	800
Exhaust Velocity (ft/sec)	54.5
Exhaust Flow (ACFM)	2,570
Stack Diameter (ft)	1
Stack Height (ft)	18.8

Select Source of Emission Factors

- (•) AP-42 Emission Factors
- ( ) Manufacturer Specs (Enter Appropriate Emission Factors Below) or Diesel Tier 1, 2, 3 or 4
- ( ) NSPS JJJJ; Engine Manuf. Between July 1, 2007-June 30, 2010 & Engine HP≥500HP
- ( ) NSPS JJJJ; Engine Manuf. On or after July 1, 2010 & Engine HP≥500HP
- ( ) NSPS JJJJ; Engine Manuf. Between July 1, 2008-Dec. 31, 2010 & Engine HP 100≤HP<500
- ( ) NSPS JJJJ; Engine Manuf. on or after Jan.1, 2011 & Engine HP 100≤HP<500
- ( ) NSPS JJJJ; Eng. Manuf. Betw. Jan. 1, 2008-June 30, 2010 & LB Engine HP 500≤HP<1350
- ( ) NSPS JJJJ; Engine Manuf. on or after July 1, 2010 & LB Engine HP 500≤HP<1350
- ( ) NSPS JJJJ; Engines < 100HP (Enter Appropriate Emission Factors Below)
- ( ) NSPS IIII; Stationary Diesel Engines

Emission Factors, Catalyst Control Efficiency & Safety Factor						Uncontrolled Emissions		AP-42 Emissions		Controlled Emissions (includes SF)[1]	
Pollutant	Uncontrld. EF g/hp-hr	% Control Efficiency	% Safety Factor	Contrld EF g/(hp-hr)	AP-42 EF g/ hp-hr	lb/hr	Tons/yr	lb/hr	Tons/yr	lb/hr	Tons/yr
NOx^	1	0	0	1	14.7963	0.9369	4.1036	13.8634	60.7217	0.9369	4.1036
CO	1.84	0	0	1.84	1.1496	1.724	7.5511	1.0771	4.7177	1.724	7.5511
VOC*	0.53	0	0	0.53	0.4279	0.4966	2.1751	0.4009	1.7559	0.4966	2.1751
Formaldehyde			0			0	0	0.1794	0.7858	0.1794	0.7858
TSP/PM10/PM2.5	0.0362	0	0	0.0362	0.0362	0.0339	0.1485	0.0339	0.1485	0.0339	0.1485
[2]SO_2	0.0479	0	0	0.0479	0.002132	0.04488	0.196574	0.001998	0.008751	0.04488	0.196574
AP-42 HAPs	lb/MMBtu										
Formaldehyde	0.0528	NA	NA	NA	NA	0.17941	0.78582	NA	NA	NA	NA
Acetaldehyde	0.00836	NA	NA	NA	NA	0.02841	0.12444	NA	NA	NA	NA
Acrolein	0.00514	NA	NA	NA	NA	0.01747	0.07652	NA	NA	NA	NA
Benzene	0.00044	NA	NA	NA	NA	0.0015	0.00657	NA	NA	NA	NA
Ethylbenzene	0.0000397	NA	NA	NA	NA	0.00013	0.00057	NA	NA	NA	NA
n-Hexane	0.0011	NA	NA	NA	NA	0.00374	0.01638	NA	NA	NA	NA
Toluene	0.000408	NA	NA	NA	NA	0.00139	0.00609	NA	NA	NA	NA
Xylene	0.000184	NA	NA	NA	NA	0.00063	0.00276	NA	NA	NA	NA
Total HAPs	NA	NA	NA	NA	NA	0.23268	1.01915	NA	NA	0.23	1.02

* Uncontrolled & Controlled VOC emissions include aldehyde emissions. VOC Emissions for JJJJ do not include aldehyde emissions. [1] For NOI's & NPR, controlled emissions cannot be less than JJJJ emissions. [2] SO2 EF (grains/scf or ppm) except for AP-42 EF in g/hp-hr for SO2 & EF Values for NOx, CO, VOC, TSP/PM10/PM2.5 in lb/hp-hr for large gasoline & diesel engines. ^NOx+NMHC Emission Factors for diesel engines assume 75% NOx and 25% VOC

Date: Aug 26, 2021
Company Name: IACX Roswell LLC
Facility Name: Bitter Lake Compressor Station

Permit Number: NSR 0274 and P-047
AI# if Known: 14
Elevation (ft.): 3,500

Total Requested Emissions For All Regulated Engines (NSR Request)

UnitID	NO_x		CO		VOC		SO_x		TSP		PM_{10}		$PM_{2.5}$		H_2S		Total HAP	
	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
ENG 1	10.43	45.67	6.38	27.94	1.87	8.19	0.13	0.57	0.46	2.03	0.46	2.03	0.46	2.03			0.71	3.13
ENG 2	5.87	25.71	7.69	33.69	1.84	8.06	0.13	0.56	0.46	2	0.46	2	0.46	2			0.7	3.08
ENG 3	0.94	4.1	1.72	7.55	0.5	2.18	0.04	0.2	0.03	0.15	0.03	0.15	0.03	0.15			0.23	1.02
ENG 4	0.94	4.1	1.72	7.55	0.5	2.18	0.04	0.2	0.03	0.15	0.03	0.15	0.03	0.15			0.23	1.02
ENG 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
ENG 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
ENG 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
ENG 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
GEN 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
PJENG 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
Page Totals	**18.18**	**79.58**	**17.51**	**76.73**	**4.71**	**20.61**	**0.34**	**1.53**	**0.98**	**4.33**	**0.98**	**4.33**	**0.98**	**4.33**			**1.87**	**8.25**

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Dehydration Unit Emissions Calculations Form

GRI-GLYCalc	**Select Dehydration Unit Emission Calculation Method**	Process Simulator

Is 40 CFR Part 63, Subpart HH Applicable?	Yes	Explain Below & Indicate How Compliance Will be Achieved.

Notes:

Process Simulator Dehydration Unit Emission Calculations

Please attach the selected Process Simulator printout with all input data provided along with the calculated emissions. Enter the uncontrolled VOC, Benzene & H_2S emissions below. If the tank vapors are routed to a flare, enclosed combustion device, vapor combustion unit, vapor recovery unit or thermal oxidizer select the appropriate VOC destruction method below along with selected VOC & H_2S destruction efficiency supported by manufacturer specifications submitted with the application.

Dehydration Unit Information

Select Process Simulator	ProMax	Is a Flash Tank Used?	No
Hours of Operation (hrs/yr)	8,760	Dry Gas Flow Rate (MMscf/d)	30
Type of Glycol Employed	TEG (Triethylene Glycol)	Wet Gas Temperature (^oF)	112
Glycol Flow Rate (gpm)	5.49	Wet Gas Pressure (psig)	820
Flash Tank Pressure (psig)	86	Flash Tank Temperature (^oF)	140

Dehydration Unit Control Information

	Flash Tank		Regenerator	
	pph	tpy	pph	tpy
Uncontrolled VOC Emissions	0	0	16.56	72.53
Uncontrolled Total HAP Emissions	0	0	2.9965	13.1248
Uncontrolled Benzene Emissions	0	0	0	0
Uncontrolled H_2S Emissions	0	0	0	0
Control Method	Fuel Gas		Condenser & Reboiler	
VOC Destruction Efficiency	100		97.5	
H_2S Destruction Efficiency			97.5	

Notes: Flash tank not-in-use.

Total VOC, Benzene & H_2S Emissions From Dehydration Unit Calculated with Selected Process Simulator

Unit Number	VOC		Total HAP		Benzene		H_2S	
BL-GDS-1	pph	tpy	pph	tpy	pph*	tpy*	pph	tpy
Uncontrolled Emissions	16.56	72.53	3	13.12	0	0	0	0
Controlled Emissions	0.41	1.81	0.07	0.33	0	0	0	0

New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Date:	Aug 26, 2021	**Permit Number:**	NSR 0274 and P-047
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Reboilers for Glycol Dehydration Units & Other Units (Only for units rated <100 MMBTU/Hr)

Enter appropriate information in green boxes below changing default values as appropriate and adding additional rows for each heater unit.

Enter the Sulfur Content of Gas or use default value (grains/10^6 scf). **2,000**

SO_2 emissions based on AP-42 EF and assumes 100% conversion of fuel sulfur to SO2 and assumes sulfur content in natural gas of 2,000 grains/1000000 scf. Change default value of 2000 as needed based on gas analysis submitted with application.

Enter the Low Heat Value of Gas or use default value (Btu/scf). **1,020**

Total Emissions For Reboilers For Glycol Dehydration Units & Other Units

Add/Remove Rows	Unit ID	Heat Input	NO_x		CO		VOC		SO_2		$PM/PM_{10}/PM_{2.5}$	
		MMBtu/hr	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
+ -	ReBoiler-1	0.75	0.074	0.324	0.062	0.272	0.004	0.018	0	0	0.006	0.026
+ -	ReBoiler-2	0.75	0.074	0.324	0.062	0.272	0.004	0.018	0	0	0.006	0.026
	Totals		0.148	0.648	0.124	0.544	0.008	0.036	0	0	0.012	0.052

Uncontrolled Emissions Calculation Tool for All Reboilers For Glycol Dehydration Units & Other Units (Only for units rated <100 MMBTU/Hr)

All emission factors based on AP-42, Table 1.4-1, Table 1.4-2 and Table 1.4-3 (July 1998)
https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf

Emission factors for natural gas combustion in boilers and furnaces are presented in AP42, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4. The Tables present emission factors on a volume basis (lb/10^6 scf). To convert to an energy basis (lb/MMBtu), divide by a heating value of 1,020 MMBtu/10^6 scf. The emission factors may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value.

NOx Sample Calculation

pph = AP 42 NOx Emission Factor (EF) * heat value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * 1/Heat Value Btu/scf * 1000000/1Btu/MMBtu
= 100 lb/1000000 scf * 2000 Btu/scf/1020 Btu/scf * 0.5 MMBtu/hr * 1/2000 Btu/scf * 1000000/1Btu/MMBtu
=0.096 lb/hr

tpy = AP 42 NOx Emission Factor (EF) * heat value Btu/scf/1020 Btu/scf * Maximum Heat Input (MMBtu/hr) * 1/Heat Value Btu/scf * 1000000/1 Btu/MMBtu * 8760 hrs/yr * 1ton/2000 lbs
= 100 lb/1000000 scf * 2000 Btu/scf/1020 Btu/scf * 0.5 MMBtu/hr * 1/2000 Btu/scf * 1000000/1 Btu/MMBtu * 8760 hrs/yr * 1ton/2000lbs
= 0.42 tpy

SO_2 emissions based on 100% conversion of fuel sulfur to SO_2 and assumes sulfur content in natural gas of 2,000 grains/10^6 scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf.

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-0
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Vapor Recovery Unit
Air Emissions Calculations Form
Under Development

Please submit all required calculations and supporting documentation for all vapor recovery unit emissions.

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Vapor Recovery Unit (VRU) Process vs Control Determination

Please complete the Process vs. Control determination below for the VRT/ULPS, which addresses the three criteria referenced in the EPA Nov. 27, 1995 Process Guidance memo and enter appropriate Information in all green boxes.

1. *Is the primary purpose of the equipment to control air pollution? (Check appropriate box)*

☐ No, the primary purpose of the VRU equipment is to recover flash gas vapors and route them into an available gas sales line.

☐ Yes, the primary purpose of the VRULPS equipment is to control air pollution.

2. *Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment? (Check appropriate box)*

☐ Yes, the benefit-cost analysis below demonstrates a positive return on investment. The benefit-cost analysis of the VRU equipment compared to the product recovered is shown below:

☐ No, the benefit- cost analysis below demonstrates a negative return on investment.

VRU-1	VRU-1 Benefit-Cost Analysis*		
Capital Cost of VRT/ULPS ($)		Oil Production (BOPD)	300
VRT/ULPS/LPC/VRU Rental Costs ($/mo)	$0.00	VRT/ULPS Vapor Production (Mcf/d)	
Capital Cost of LPC/VRU ($)	NA	Heating Value of Vapors (Btu/scf)	
Annual Maintenance & Service Costs ($/yr)		Natural Gas Price ($/MMBtu)	
Annual Electricity or Fuel Costs ($/yr)		VRT/ULPS/LPC/VRU Life Expectancy (Yrs)	5
VRT/ULPS/LPC/VRU Lifetime Costs ($)	$0.00	Lifetime VRT/ULPS/LPC/VRU Profit (Revenues-Costs) ($/yr)	$0.00
Annual VRT/ULPS/LPC/VRU Revenue ($/yr)	$0.00	Payback Period (Yrs)	
VRT/ULPS/LPC/VRU Lifetime Revenue ($)	$0.00	Lifetime Benefit-Cost Ratio	

3. *Would the equipment be installed if no air quality regulations are in place? (Check appropriate box)*

☐ Yes, the VRU equipment would still be installed regardless of air quality regulations, due to the significant cost benefits of product recovery.

☐ No, the VRU equipment would not be installed if there were no air quality regulations in place.

Notes:

Footnote: All estimates based on current dollars unless specified otherwise; Tank vapor estimates based on flash calculation method noted in Tanks form based on oil throughput noted in p2 of AECT (this can be changed by user); Gas price based on EIA Natural Gas Weekly Update. * The time value of money is not taken into account.

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-0
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Vertical Fixed Roof (VFR) Oil/Condensate VOC Flash Emissions Calculations Form

Select Tanks Flash Emission Calculation Method

GOR	E & P Tanks	ProMax
Vasquez-Beggs	HYSYS	VMGSim

ProMax Oil Tanks Emission Calculations

Please attach the ProMAX printout with all input data provided along with the calculated emissions. Enter the uncontrolled VOC emissions below. If the tank vapors are routed to a flare, enclosed combustion device, vapor combustion unit, vapor recovery unit or thermal oxidizer select the appropriate VOC destruction method below along with selected VOC destruction efficiency supported by manufacturer specifications submitted with the application.

Tanks VOC Control Method			
Capture Efficiency	100	Represent Uncaptured/Uncollected VOC's at Tanks	YES
VOC Control Method[1]	Vapor Recovery Unit (VRU)	Represent VRU/ULPC Downtime Emissions at Tanks	YES
VOC Destruction Efficiency[2]	95	Represent VOC Controlled Emissions at Tanks*	YES
Notes			

Total VOC Flash Emissions From Oil/Condensate Storage Tanks Calculated with ProMax

Add/Remove Rows	Tank ID	VOC Uncontrolled Emissions		VOC Emissions after Control		VOC Emissions at the Tanks	
Up To 10 Units		pph	tpy	pph*	tpy*	pph	tpy
+ -	TK-1	0.01	0.01	0	0	0	0
+ -	TK-2	18.24	79.87	0.91	3.99	0.91	3.99
+ -	TK-2a	0.01	0.01	0	0	0	0
	Totals	18.26	79.89	0.91	3.99	0.91	3.99

Notes 1 & 2 See next page; * Emissions only represented at tanks if "Yes" is selected to represent emissions at tanks.

Calculation Tool for Tanks Flashing & Working & Standing Emissions for Oil & Gas Production Sites

All flash emissions based on flash calculation methodology selected;

1) The appropriate ECD, flare, TO, VCU or VRU form must also be completed.
2) Manufacturer documentation required to support % control selected. If using a VRU/LPC, calculations assume VRU/ULPC with a 100% control efficiency, but with 5% downtime;
3) Information included in calculation tool must be based on representative oil and gas analysis which must be submitted with application;
4) GOR and Vasquez-Beggs sample calculations outlined below; E & P Tanks, ProMax, HYSYS & VMG Sim flash emissions require submittal of computer simulation model emissions calculations print-outs;
5) Working & Standing emissions based on AP-42 Chpt. 7, tanks 4.09d computer simulation or ProMax, or VMG computer simulation models.

Sample Calculations

GOR Methodology

VOC pph = GOR (scf/bbl) * Facility Oil Throughput (BOPD) * 1/24 (Hours/Day * 1/Universal Gas Constant 385 scf/lb-mole @ 70^{O}F, 1 atm) * Molecular Weight of Tank Vapors (lb/lb-mol)
= 40 (scf/bbl) * 1000 (BOPD)*1/24 (hrs/day) *1/385 scf/lb-mol * 50 lb/lb-mol
= 216.45 lbs/hr

VOC tpy = GOR (scf/bbl) * Facility Oil Throughput (BOPD) * 1/24 (Hours/Day * 1/Universal Gas Constant 385 scf/lb-mole @ 70^{O}F, 1 atm) * Molecular Weight of Tank Vapors (lb/lb-mol) * 8760 hr/yr * 1/2000 lbs/ton
= 40 (scf/bbl) * 1000 (BOPD)*1/24 (hrs/day) *1/385 scf/lb-mol * 50 lb/lb-mol * 8760 hr/yr * 1/2000 lbs/ton
= 948.05 tpy

Vasquez-Beggs Methodology

INPUTS			Constraints			
API Gravity		API	16	<API>	58	^{0}API
Separator Pressure (psig)		P	50	<P+Patm>	5250	psia
Separator Temp. (^{0}F)		Ti	70	<Ti>	295	^{0}F
Separator Gas Gravity at Initial Condition		SGi	0.56	<SGi>	1.18	MW/28.97
Barrels of Oil/Day (BOPD)	100	Q	None	<Q>	None	BOPD
Tank Gas MW		MW	18	<MW>	125	lb/lb-mole
VOC Fraction of Tank Gas		VOC	0.5	<VOC>	1.00	Fraction
Atmospheric Pressure (psia)		Patm	20	<Rs>	2070	scf/bbl

Constants			
	^{0}API Gravity		
^{0}APTI	<30	≥30	Given^{0}API
C1	0.0362	0.0178	
C2	1.0937	1.187	
C3	25.724	23.931	

SGx = Dissolved gas gravity at Separator pressure = SGi [1.0+0.00005912*API*Ti*Log(Pi/114.7)]

Rs = (C1 * SGx * Pi^C2) exp ((C3 * API) / (Ti + 460)) for P + Patm

THC = Rs * Q * MW * 1/385 scf/lb-mole * 365 D/Yr * 1 ton/2000 lbs

VOC = THC * Frac. of C3+ in the Stock Tank Vapor

Technical Disclaimer
This document is intended to help you accurately determine oil/condensate storage tank flash, working and standing emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how these units work and how they generate emissions, how they are monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of oil/condensate storage tank flash, working and standing emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-0
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Vertical Fixed Roof (VFR) Oil/Condensate VOC Working & Standing Emissions Calculations Form

Select Tanks W & S Emission Calculation Method

AP-42 Chpt. 7 | EPA Tanks 4.09d | ProMax | E & P Tanks

ProMax Oil Tanks W & S Emission Calculations

Please attach the ProMAX printout with all input data provided along with the calculated emissions. Enter the uncontrolled VOC emissions below. If the tank vapors are routed to a flare, enclosed combustion device, vapor combustion unit, vapor recovery unit or thermal oxidizer select the appropriate VOC destruction method below along with selected VOC destruction efficiency supported by manufacturer specifications submitted with the application.

Tanks VOC Control Method

Capture Efficiency	100	Represent Uncaptured and/or Controlled VOC's at Tanks	YES
VOC Control Method	Vapor Recovery Unit (VRU)	Represent VRU/ULPC Downtime Emissions at Tanks	YES
VOC Destruction Efficiency	95	Represent VOC Controlled Emissions at Tanks*	YES

Notes: Based on ProMax flashing considering 5 psi pressure drop and sample analyzed 1/7/2019. VRU assumes a total of 5% bypass and downtime.

Total VOC W & S Emissions From Oil/Condensate Storage Tanks Calculated with ProMax

Add/Remove Rows Up To 10 Units	Tank ID	VOC Uncontrolled Emissions		VOC Emissions after Control		VOC Emissions at the Tanks	
		pph	tpy	pph*	tpy*	pph	tpy
+ -	TK-1	0.01	0.01	0	0	0	0
+ -	TK-2	1.06	4.65	0.05	0.23	0.05	0.23
+ -	TK-2a	4.26	18.66	0.21	0.93	0.21	0.93
	Totals	5.33	23.32	0.26	1.16	0.26	1.16

Notes 1 & 2 See next page; * Emissions only represented at tanks if "Yes" is selected to represent emissions at tanks.

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Emissions From Loading Petroleum Liquid

Select Appropriate AP-42 Petroleum Liquid Loading Methodology & Enter appropriate information in the green boxes below changing default values as appropriate.

Emission Unit ID: OILLOAD-1

Facility Oil Throughput (gal/yr)	2,820,720
Max. Hourly Loading Rate (gal/hr)	8,000

*Select Appropriate AP-42 Petroleum Liquid Loading Methodology Below**

( ) AP-42, 5.2-4 Equation 1

(•) AP-42, Table 5.2-5

S - Saturation Factor (From AP-42 Table 5.2-1)	0.6
M - Molecular Weight of Vapors (lb/lb-mole)	51.3
P_{annual} - Avg. Annual True Vapor Pressure of Liquid Loaded (psia)	12.03
P_{hourly} - Max Hourly True Vapor Pressure of Liquid Loaded (psia)	11.8
T_{annual} - Average Annual Temperature ^{O}F of Bulk Liquid Loaded	65.6
T_{hourly} - Maximum Hourly Temperature ^{O}F of Bulk Liquid Loaded	92.88

Select Emission Source - From AP-42 Table 5.2-5

- (•) Submerged Loading Dedicated Normal Service
- ( ) Submerged Loading Vapor Balance Service
- ( ) Splash Loading Dedicated Normal Service
- ( ) Splash Loading Vapor Balance Service

Truck Loading VOC Control Method

Capture Efficiency	100	Represent Uncaptured/Uncollected VOC's at Loading Rack	YES
VOC Control Method[1]	Vapor Recovery Unit (VRU)	Represent VRU/ULPC Downtime Emissions at Loading Rack	YES
VOC Destruction Efficiency[2]	95	Represent VOC Controlled Emissions at Loading Rack	NO

Notes

Total VOC Emissions From Loading Petroleum Liquids

Pollutant	VOC Uncontrolled Emissions		VOC Emissions after Control		VOC Emissions at the Loading Rack	
	pph*	tpy*	pph*	tpy*	pph*	tpy*
VOC	13.6	2.4	0.68	0.12	0.68	0.12

Footnote: * All emission factors based on AP-42, 5.2-4 Equation 1 or AP-42 Table 5.2-5 (July 2008); See next page for calculation notes. You may elect to represent the controlled emissions at the loading rack or at the control device or tanks by selecting the appropriate drop-down options under *Truck Loading VOC Control Method*.

Calculation Tool for Emissions From Loading Petroleum Liquid

Emissions based on AP-42, 5.2-4 Equation 1 (July 2008) or AP-42, Table 5.2-5

https://www3.epa.gov/ttn/chief/ap42/ch05/final/c05s02.pdf

AP-42 5.2-4 Equation 1

Emissions from loading petroleum liquid can be estimated (with a probable error of ±30 percent)[4] using the following expression:

Equation 1 $L_L = 12.46 * SPM/T$

where:

L_L = loading loss, pounds per 1000 gallons (lb/10^3 gal) of liquid loaded;

S = a saturation factor (see Table 5.2-1 reproduced below))

P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia) (see Section 7.1, "Organic Liquid Storage Tanks")

M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole) (see Section 7.1, "Organic Liquid Storage Tanks")

T = temperature of bulk liquid loaded, °R (°F + 460)

VOC pph = (12.46*0.6*7.0 (psia)*50 (lb/lb-mole)/550°R)/1000 (gal) * 8400 (gal/hr)
= 39.96 lb/hr

VOC tpy = (12.46*0.6*4.5 (psia)*50 (lb/lb-mole)/525°R)/1000 * 1533000 (gal/yr) * 1/2000 (ton/lbs)
= 2.46 tpy

Table 5.2-1. SATURATION (S) FACTORS FOR CALCULATING PETROLEUM LIQUID LOADING LOSSES

Cargo Carrier	Mode of Operation	S Factor
Tank trucks and rail tank cars	Submerged loading of a clean cargo tank	0.5
	Submerged loading: dedicated normal service	0.6
	Submerged loading: dedicated vapor balance service	1.0
	Splash loading of a clean cargo tank	1.45
	Splash loading: dedicated normal service	1.45
	Splash loading: dedicated vapor balance service	1.0
Marine vessels[a]	Submerged loading: ships	0.2
	Submerged loading: barges	0.5

[a] For products other than gasoline and crude oil. For marine loading of gasoline, use factors from Table 5.2-2. For marine Loading of crude oil, use Equations 2 and 3 and Table 5.2-3.

AP-42 Table 5.2-5

VOC pph = (2lb/1000 (gal) * ((100-15)/100) * 8400 (gal/hr) = 16.8 pph

VOC tpy = (2lb/1000 (gal) * ((100-15)/100) * 100 (BOPD) * 42 (gal/bbl) * 365 (days/yr) * 1/2000 (ton/lb) = 1.53 tpy

Table 5.2-5 TOTAL UNCONTROLLED ORGANIC EMISSION FACTORS FOR PETROLEUM LIQUID RAIL TANK CARS AND TANK TRUCKS

Emission Source	Mode of Operation	Crude Oil (lb/1000 gal transferred)[b]
Loading Operations[c]		
	Submerged loading: dedicated normal service	2
	Submerged loading: dedicated vapor balance service	3
	Splash loading: dedicated normal service	5
	Splash loading: dedicated vapor balance service	3

a Reference 2. ……VOC factors for crude oil can be assumed to be 15% lower than the total organic factors, to account for the methane and ethane content of crude oil evaporative emissions. All other products should be assumed to have VOC factors equal to total organics; b The example crude oil has an RVP of 34 kPa (5 psia); c Loading emission factors are calculated using Equation 1 for a dispensed product temperature of 16°C (60°F). In the absence of specific inputs for Equations 1 , the typical evaporative emission factors presented in Tables 5.2-5 should be used. It should be noted that, although the crude oil used to calculate the emission values presented in this tables has an RVP of 5, the RVP of crude oils can range from less than 1 up to 10. In areas where loading and transportation sources are major factors affecting air quality, it is advisable to obtain the necessary parameters and to calculate emission estimates using Equations 1.

1) The appropriate ECD, flare, TO, VCU or VRU form must also be completed.

2) Manufacturer documentation required to support % control selected. If using a VRU/LPC, calculations assume VRU/ULPC with a 100% control efficiency, but with 5% downtime;

3) Information included in calculation tool must be based on representative oil and gas analysis which must be submitted with application;

^) Vapor balancing emissions to tanks must be represented at the tanks;

Technical Disclaimer

This document is intended to help you accurately determine truck loading petroleum emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how truck loading operations work and how it generates emissions, how it is monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of truck loading petroleum emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Startup, Shutdown & Maintenance and Malfunction

- ○ No SSM emissions are expected from routine operations.
- ◉ Request up to 10 tpy of VOC SSM emissions.
- ○ Request site specific VOC & H2S SSM and enter information below.
- ○ Request site specific VOC & H2S SSM plus 10 tpy VOC and enter information below.
- ○ Request site specific combustion SSM and those emissions are included in Section 4 (attach calculations.)

- ◉ Request 10 tpy VOC Malfunction emissions for GCP-O&G, GCP-6 or NSR permitting actions only.

	Blowdowns			Engine Startups		
Unit Numbers						
Quantity of Like-kind Blowdown Units or Engines	1					
Total Volume of Each Blowdown or Engine Startup Vent (acf)						
Duration of Event (Minutes)						
Maximum Blowdowns or Startups/hr	1					
Frequency of Blowdowns or Engine Startups (Events/yr)						
Total Actual Volume of Gas Vented (acf/yr)	0					
Pressure of Gas Inside Unit Before Venting (psig)						
Final Pressure (psia)	14.7					
Gas Temperature Prior to Venting (°F)						
Vented Gas Molecular Weight (lb/lb-mol						
Vented Gas VOC wt %						
Vented Total HAP wt %						
Vented Gas Benzene wt %						
Vented Gas H_2S wt %						

Startup, Shutdown and Maintenance Emissions (SSM) and Malfunction Emissions

SSM	VOC		Total HAP		Benzene		H_2S	
	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY
SSM Blowdowns								
SSM Startups								
SSM Other (Attach Calculations)								
SSM Totals		**10**						
Malfunction Total		**10**						

Notes

Planned SSM Emissions

The venting emissions calculations herein should only be used when only gas (no liquids) is present in the unit. The calculation of the vented gas is based on the volume of the unit and assumes the unit is saturated with vapor at the pressure and temperature of the unit before venting occurs. If liquids are also present in the gas, please enter the calculated amounts in the SSM Other row only and submit separate calculations, since the calculations on this form do not account for the evaporation of liquids that may be present in the unit.

Calculations are based on the Ideal gas law: P(V) = n(R)(T)

VOC result = (((Pressure of Gas Inside the Unit Before Venting) * (Actual Volume of the Vented Unit)) / (Frequency of events) * (Molecular Weight) * VOC wt%)/(Ideal Gas Constant) * (Temperature of Gas Inside the Unit Before Venting)

Where the Ideal Gas Constant = 10.73159 (ft^3*psia)/R*lb-mol

For SSM combustion emissions, attach separate calculations.

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Emissions From Loading Produced Water Liquids

Select Appropriate AP-42 Petroleum Liquid Loading Methodology & Enter appropriate information in the green boxes below changing default values as appropriate.

Emission Unit ID: PWLOAD-1

Facility Produced Water Throughput (gal/yr)	1,793,610
Max. Hourly Loading Rate (gal/hr)	8,000
% Oil in Water	1

*Select Appropriate AP-42 Petroleum Liquid Loading Methodology Below**

( ) AP-42, 5.2-4 Equation 1

( ) AP-42, Table 5.2-5

S - Saturation Factor (From AP-42 Table 5.2-1)	0.6
M - Molecular Weight of Vapors (lb/lb-mole)	18.31
P_{annual} - Avg. Annual True Vapor Pressure of Liquid Loaded (psia)	0.31
P_{hourly} - Max Hourly True Vapor Pressure of Liquid Loaded (psia)	0.58
T_{annual} - Average Annual Temperature ^{o}F of Bulk Liquid Loaded	65.6
T_{hourly} - Maximum Hourly Temperature ^{o}F of Bulk Liquid Loaded	92.88

Select Emission Source - From AP-42 Table 5.2-5

- (•) Submerged Loading Dedicated Normal Service
- ( ) Submerged Loading Vapor Balance Service
- ( ) Splash Loading Dedicated Normal Service
- ( ) Splash Loading Vapor Balance Service

Notes:

Total VOC Emissions From Loading Produced Water Liquids Based On % Oil in Water Selected Above

Pollutant	Uncontrolled Emissions (pph)	Uncontrolled Emissions (tpy)
VOC	0.14	0.02

Footnote: * All emission factors based on AP-42, 5.2-4 Equation 1 or AP-42 Table 5.2-5 (July 2008); See reverse side for calculation notes

Calculation Tool for Emissions From Loading Produced Water Liquids

Emissions based on AP-42, 5.2-4 Equation 1 (July 2008) or AP-42, Table 5.2-5

https://www3.epa.gov/ttn/chief/ap42/ch05/final/c05s02.pdf

AP-42 5.2-4 Equation 1

Emissions from loading produced water liquids can be estimated (with a probable error of ±30 percent)[4] using the following expression:

Equation 1 $L_L = 12.46 * SPM/T$

where:

L_L = loading loss, pounds per 1000 gallons (lb/10^3 gal) of liquid loaded (assumes 1% oil in water)

S = a saturation factor (see Table 5.2-1 reproduced below))

P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia) (see Section 7.1, "Organic Liquid Storage Tanks")

M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole) (see Section 7.1, "Organic Liquid Storage Tanks")

T = temperature of bulk liquid loaded, °R (°F + 460)

VOC pph = (12.46*0.6*7.0 (psia)*50 (lb/lb-mole)/550°R)/1000 (gal) * 8400 (gal/hr) * 0.01 (1% oil in water)
= 39.96 lb/hr

VOC tpy = (12.46*0.6*4.5 (psia)*50 (lb/lb-mole)/525°R)/1000 * 1533000 (gal/hr) * 1/2000 (ton/lbs) * 0.01 (1% oil in water)
= 2.46 tpy

Table 5.2-1. SATURATION (S) FACTORS FOR CALCULATING PETROLEUM LIQUID LOADING LOSSES

Cargo Carrier	Mode of Operation	S Factor
Tank trucks and rail tank cars	Submerged loading of a clean cargo tank	0.5
	Submerged loading: dedicated normal service	0.6
	Submerged loading: dedicated vapor balance service	1.0
	Splash loading of a clean cargo tank	1.45
	Splash loading: dedicated normal service	1.45
	Splash loading: dedicated vapor balance service	1.0
Marine vessels[a]	Submerged loading: ships	0.2
	Submerged loading: barges	0.5

[a] For products other than gasoline and crude oil. For marine loading of gasoline, use factors from Table 5.2-2. For marine Loading of crude oil, use Equations 2 and 3 and Table 5.2-3.

AP-42 Table 5.2-5 (assumes 1% oil in water)

VOC pph= (2lb/1000 (gal) * ((100-15)/100) * 8400 (gal/hr) * 0.01 (1% oil in water) = 0.168 pph

VOC tpy = (2lb/1000 (gal) * ((100-15)/100) * 100 (BOPD) * 42 (gal/bbl) * 365 (days/yr) * 1/2000 (ton/lb) * 0.01 (1% oil in water) = 0.0153 tpy

Table 5.2-5 TOTAL UNCONTROLLED ORGANIC EMISSION FACTORS FOR PETROLEUM LIQUID RAIL TANK CARS AND TANK TRUCKS

Emission Source	Mode of Operation	Crude Oil (lb/1000 gal transferred)[b]
Loading Operations[c]		
	Submerged loading: dedicated normal service	2
	Submerged loading: dedicated vapor balance service	3
	Splash loading: dedicated normal service	5
	Splash loading: dedicated vapor balance service	3

a Reference 2. ……VOC factors for crude oil can be assumed to be 15% lower than the total organic factors, to account for the methane and ethane content of crude oil evaporative emissions. All other products should be assumed to have VOC factors equal to total organics; b The example crude oil has an RVP of 34 kPa (5 psia); c Loading emission factors are calculated using Equation 1 for a dispensed product temperature of 16°C (60°F). In the absence of specific inputs for Equations 1 , the typical evaporative emission factors presented in Tables 5.2-5 should be used. It should be noted that, although the crude oil used to calculate the emission values presented in this tables has an RVP of 5, the RVP of crude oils can range from less than 1 up to 10. In areas where loading and transportation sources are major factors affecting air quality, it is advisable to obtain the necessary parameters and to calculate emission estimates using Equations 1.

Technical Disclaimer

This document is intended to help you accurately determine truck loading produced water emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how truck loading operations work and how it generates emissions, how it is monitored or tested, and what data are available for emissions determination, may change over time as the AQB continue scientific studies and as new information becomes available. The AQB welcome any data, information, or feedback that may improve our understanding of truck loading produced water emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Emission Unit ID: FUG-1 **Fill all green/blue boxes changing default values as appropriate.**

Fugitive Volatile Organic Compounds (VOC), Total HAPs (HAP), Benzene (CH6) & Hydrogen Sulfide (H_2S) Emissions

					Uncontrolled Total								Controlled Total							
					VOC		Total HAP		CH_6		H_2S		VOC		Total HAP		CH_6		H_2S	
Service	%VOC	%HAP	%CH_6	%H_2S	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY	PPH	TPY
Gas	9.902%				0.06	0.27	0	0	0	0	0	0	0.006	0.027	0	0	0	0	0	0
Heavy Oil	100%				0.29	1.27	0	0	0	0	0	0	0.161	0.704	0	0	0	0	0	0
Light Oil	100%				0.41	1.78	0	0	0	0	0	0	0.042	0.182	0	0	0	0	0	0
Water/Oil	1%				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals					0.76	3.32	0	0	0	0	0	0	0.209	0.913	0	0	0	0	0	0

				Uncontrolled VOC, HAP & CH_6 Emissions							Controlled VOC, HAP & CH_6 Emissions					
Equipment Type	Service[a]	EF[b] PPH/Source	No. of Sources	VOC PPH	VOC TPY	HAP PPH	HAP TPY	CH_6 PPH	CH_6 TPY	Control Efficiency	VOC PPH	VOC TPY	HAP PPH	HAP TPY	CH_6 PPH	CH_6 TPY
Valves	Gas	0.0099207	60	0.0589	0.258	0	0	0	0	9.9%	0.0058	0.0255	0	0	0	0
	Heavy Oil	0.00001852	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.0055115	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00021605	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.0589	0.258	0	0	0	0		0.0058	0.0255	0	0	0	0
Pump Seals	Gas	0.00529104	0	0	0	0	0	0	0	0%	0	0	0	0		0
	Heavy Oil	0.0286598	10	0.2866	1.2553	0	0	0	0	56%	0.1605	0.703	0	0	0	0
	Light Oil	0.0286598	4	0.1146	0.5019	0	0	0	0	22%	0.0252	0.1104	0	0	0	0
	Water/Oil	0.00005291	4	0	0	0	0	0	0	22%	0	0	0	0	0	0
Subtotals				0.4012	1.7572	0	0	0	0		0.1857	0.8134	0	0	0	0
Connectors	Gas	0.00044092	20	0.0009	0.0039	0	0	0	0	9.9%	0.0001	0.0004	0	0	0	0
	Heavy Oil	0.00001653	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.00046297	15	0.0069	0.0302	0	0	0	0	75%	0.0052	0.0227	0	0	0	0
	Water/Oil	0.00024251	5	0	0	0	0	0	0	25%	0	0	0	0	0	0
Subtotals				0.0078	0.0341	0	0	0	0		0.0053	0.0231	0	0	0	0
Flanges	Gas	0.00085979	20	0.0017	0.0074	0	0	0	0	9.9%	0.0002	0.0007	0	0	0	0
	Heavy Oil	0.00000086	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.00024251	20	0.0049	0.0215	0	0	0	0	100%	0.0049	0.0215	0	0	0	0
	Water/Oil	0.00000639	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.0066	0.0289	0	0	0	0		0.0051	0.0222	0	0	0	0
Open Ends	Gas	0.0044092	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Heavy Oil	0.00030864	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Light Oil	0.00308644	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Water/Oil	0.00055115	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0	0	0	0	0	0		0	0	0	0	0	0
Other[c]	Gas	0.01940048	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
	Heavy Oil	0.00007055	58	0.0041	0.018	0	0	0	0	7.656%	0.0003	0.0014	0	0	0	0
	Light Oil	0.0165345	17	0.2811	1.2312	0	0	0	0	2.244%	0.0063	0.0276	0	0	0	0
	Water/Oil	0.0308644	0	0	0	0	0	0	0	0%	0	0	0	0	0	0
Subtotals				0.2852	1.2492	0	0	0	0		0.0066	0.029	0	0	0	0

Based on: *1995 Protocol for Equipment Leak Emission Estimates*, Table 2.4 Version Date: 6/23/16; See next page for calculation notes.

Calculation Tool for Fugitive Emissions Oil & Gas Production

Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017), Table 2-4;
available at the EPA Web site at https://www3.epa.gov/ttn/chief/efdocs/equiplks.pdf

a) Service categories are defined as follows:

1) Gas/vapor - material in a gaseous state at operating conditions;

2) Light liquid - material in a liquid state in which the sum of the concentration of individual constituents with a vapor pressure over 0.3 kilopascals (kPa) at 200C is greater than or equal to 20 weight percent;

3) Heavy liquid - not in gas/vapor service or light liquid service.

4) Water/Oil emission factors apply to water streams in oil service with a water content greater than 50%, from the point of origin to the point where the water content reaches 99%. For water streams with a water content greater than 99%, the emission rate is considered negligible.

b) These factors are for total organic compound emission rates (including non-VOC's such as methane and ethane) and apply to light crude, heavy crude, gas plant, gas production, and off shore facilities. "NA" indicates that not enough data were available to develop the indicated emission factor.

c) The "other" equipment type was derived from compressors, diaphragms, drains, dump arms, hatches, instruments, meters, pressure relief valves, polished rods, relief valves, and vents. This "other" equipment type should be applied for any equipment type other than connectors, flanges, open-ended lines, pumps, or valves.

d) Note that the average factors generally determine total hydrocarbon emissions. Therefore, you may need to multiply the calculated emission rates by the stream's weight percentage of VOC compounds to determine total VOC emissions. Please attach a copy of the appropriate gas and oil analysis with the stream's weight percentage of VOC compounds identified.

VOC Sample Calculation
For 10 Valves in Gas Service with a gas stream weight percentage of 25% VOC

Emission Factor (EF) lb/hr=0.0045 kg/hr * 2.2046 lbs/kg
Gas Valves Uncontrolled Emissions

pph EF (Valves in Gas Service) * Number of Valves in Gas Service & VOC wt%
0.0099207 lb/hr * 10 valves = 0.099207 lb/hr * 25%/100

tpy EF (Valves in Gas Service) * Number of Valves in Gas Service * 8760 hrs/yr * 1ton/2000 lbs
0.0099207 lb/hr * 10 valves * 8760 hrs/yr * 1/2000 ton/lbs = 0.4345 tons/yr * 25%/100

Total Uncontrolled Fugitive Emissions for all Service types in Gas Service

pph (Uncontrolled pph Emissions for Valves + Pump Seals + Connectors + Flanges + Open Ends + Other) * VOC wt%/100

tpy (Uncontrolled tpy Emissions for Valves + Pump Seals + Connectors + Flanges + Open Ends + Other) * VOC wt%/100

New Mexico Environment Department Air Quality Bureau Equipment Emissions Calculation Form

Date:	Aug 26, 2021	**Permit Number:**	NSR-NSR 0274 and P-C
Company Name:	IACX Roswell LLC	**AI# if Known:**	14
Facility Name:	Bitter Lake Compressor Station	**Elevation (ft.):**	3,500

Unpaved Haul Roads

Enter Information in all green boxes.

Haul Road Fugitive Emission Unit ID: HR-1

% Silt	4.8	**Haul Road Distance-Round-trip in Miles (Only enter round-trip distance within facility boundaries)**	0.08
Mean Vehicle Weight (tons)	26.6	**Number of Haul Road Round-trips/hour**	1
Rain Days	60	**Number of Haul Road Round-trips/yr**	4,380
User % Control	0	**Vehicle Miles Traveled/hr (VMT/hr)**	0.08
		Vehicle Miles Traveled/yr (VMT/yr)	350

Notes:

Hourly lbs/VMT			Annually lbs/VMT		
TSP	**PM10**	**PM2.5**	**TSP**	**PM10**	**PM2.5**
6.89	1.76	0.18	5.76	1.47	0.15

TSP/PM10/PM2.5 Emission Rates

Control	TSP		PM10		PM2.5	
	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Continuous	0.55	2.02	0.14	0.52	0.01	0.05
0% Control	0.55	1.01	0.14	0.26	0.01	0.03
User % Control	0.55	1.01	0.14	0.26	0.01	0.03

Footnote: All emissions based on AP-42, 13.2.2-4 (November 2006); See reverse side for calculation notes.

NMED-AQB Unpaved Haul Road Calculation Tool

All emission factors based on AP-42, AP-42 13.2.2-4; November 2006
https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s0202.pdf

Emissions from vehicles traveling on unpaved surfaces at industrial sites (based on 8760 Hours/year) can be estimated using the following expression:

AP-42 13.2.2-4; Equation 1a: $$E = k\,(s/12)^a (W/3)^b$$

where k, a, b, c and d are empirical constants (Reference 6) given below and

E = size-specific emission factor (lb/VMT)

s = surface material silt content (%)

W = mean vehicle weight (tons)

M = surface material moisture content (%)

Table 13.2.2-2. CONSTANTS FOR EQUATION 1a

Constant	Industrial Roads (Equation 1a)		
	PM-2.5	PM-10	PM-30*
k (lb/VMT)	0.15	1.5	4.9
a	0.9	0.9	0.7
b	0.45	0.45	0.45
Quality Rating	B	B	B

*Assumed equivalent to total suspended particulate matter (TSP)

Technical Disclaimer

This document is intended to help you accurately determine unpaved haul road emissions. It does not supersede or replace any state or federal law, rule, or regulation. This guidance reflects the current understanding of how unpaved haul roads work and how they generate emissions, how they are monitored or tested, and what data are available for emissions determination, may change over time as we continue our scientific studies and as new information becomes available. We welcome any data, information, or feedback that may improve our understanding of unpaved haul road emissions and thereby further improve determinations within the emissions inventory. The calculation methods represented are intended as an emissions calculation aid; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data. If you have a question regarding the acceptability of a given emissions determination method, contact the Permitting Section at 505-476-4300.

New Mexico Environment Department Air Quality Bureau Emissions Calculation Forms

Date: Aug 26, 2021
Company Name: IACX Roswell LLC
Facility Name: Bitter Lake Compressor Station

Permit Number: NSR 0274 and P-047
AI# if Known: 14
Elevation (ft.): 3,500

Total Requested Emissions For All Regulated Facility Equipment (NSR Request)

Emission Unit	NO_x		CO		VOC		SO_x		TSP		PM_{10}		$PM_{2.5}$		H_2S		Total HAP	
	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Engines	18.18	79.58	17.51	76.73	4.71	20.61	0.34	1.53	0.98	4.33	0.98	4.33	0.98	4.33	-	-	1.87	8.25
Heaters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
Oil Tanks Flash	-	-	-	-	0.91	3.99	-	-	-	-	-	-	-	-				
Oil Tanks W & S	-	-	-	-	0.26	1.16	-	-	-	-	-	-	-	-				
Water Tks Flash	-	-	-	-			-	-	-	-	-	-	-	-				
Water Tks W & S	-	-	-	-			-	-	-	-	-	-	-	-				
Skim or Slop Tank	-	-	-	-			-	-	-	-	-	-	-	-				
GBS	-	-	-	-			-	-	-	-	-	-	-	-				
ECD	0	0	0	0	0	0	0	0										
VCU	0	0	0	0	0	0	0	0										
TO	0	0	0	0	0	0	0	0										
Flares	0	0	0	0	0	0	0	0										
Fugitives	-	-	-	-	0.76	3.32									0	0	0	0
SSM						10												
Malf.	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-
Unpaved Haul Rds.	-	-	-	-	-	-	-	-	0.55	1.01	0.14	0.26	0.01	0.03	-	-	-	-
Paved Haul Rds.	-	-	-	-	-	-	-	-	0	0	0	0	0	0	-	-	0	0
Oil Load	-	-	-	-	0.68	0.12	-	-	-	-	-	-	-	-				
Water Loading	-	-	-	-	0.14	0.02	-	-	-	-	-	-	-	-				
Amine Unt	-	-	-	-	0	0	-	-	-	-	-	-	-	-	0	0	0	0
Amine Reb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
Dehy Unit	-	-	-	-	0.41	1.81	-	-	-	-	-	-	-	-			0.07	0.33
Dehy Reb.	0.15	0.65	0.12	0.54	0.01	0.04	0	0	0.01	0.05	0.01	0.05	0.01	0.05	-	-		
Totals	**18.33**	**80.23**	**17.63**	**77.27**	**7.88**	**51.07**	**0.34**	**1.53**	**1.54**	**5.39**	**1.13**	**4.64**	**1**	**4.41**	**0**	**0**	**1.94**	**8.58**

A red-outlined cell indicates that the facility exceeds the allowable emission limits for that pollutant for the requested permitting action and the application cannot be approved as proposed.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO_2e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO_2e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO_2e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO2e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following ☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at http://www.epa.gov/ttn/chief/ap42/index.html
- EPA's Internet emission factor database WebFIRE at http://cfpub.epa.gov/webfire/
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases:

Global Warming Potentials (GWP):
Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period.

"Greenhouse gas" for the purpose of air permit regulations is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7 NMAC, 20.2.74.7 NMAC).** You may also find GHGs defined in 40 CFR 86.1818-12(a).

Metric to Short Ton Conversion:
Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.
1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

Section 7

Information Used To Determine Emissions

Information Used to Determine Emissions shall include the following:

- **X** If manufacturer data are used, include specifications for emissions units and control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect normal operation.
- ☐ If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly effect emission rates.
- **X** If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
- ☐ If an older version of AP-42 is used, include a complete copy of the section.
- ☐ If an EPA document or other material is referenced, include a complete copy.
- ☐ Fuel specifications sheet.
- **X** If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For tank-flashing emissions, include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.

TABLE 3.2-1 UNCONTROLLED EMISSION FACTORS FOR 2-STROKE LEAN-BURN ENGINES[a]
(SCC 2-02-002-52)

Pollutant	Emission Factor (lb/MMBtu)[b] (fuel input)	Emission Factor Rating
Criteria Pollutants and Greenhouse Gases		
NO_x[c] 90 - 105% Load	3.17 E+00	A
NO_x[c] <90% Load	1.94 E+00	A
CO[c] 90 - 105% Load	3.86 E-01	A
CO[c] <90% Load	3.53 E-01	A
CO_2[d]	1.10 E+02	A
SO_2[e]	5.88 E-04	A
TOC[f]	1.64 E+00	A
Methane[g]	1.45 E+00	C
VOC[h]	1.20 E-01	C
PM10 (filterable)[i]	3.84 E-02	C
PM2.5 (filterable)[i]	3.84 E-02	C
PM Condensable[j]	9.91 E-03	E
Trace Organic Compounds		
1,1,2,2-Tetrachloroethane[k]	6.63 E-05	C
1,1,2-Trichloroethane[k]	5.27 E-05	C
1,1-Dichloroethane	3.91 E-05	C
1,2,3-Trimethylbenzene	3.54 E-05	D
1,2,4-Trimethylbenzene	1.11 E-04	C
1,2-Dichloroethane	4.22 E-05	D
1,2-Dichloropropane	4.46 E-05	C
1,3,5-Trimethylbenzene	1.80 E-05	D
1,3-Butadiene[k]	8.20 E-04	D
1,3-Dichloropropene[k]	4.38 E-05	C
2,2,4-Trimethylpentane[k]	8.46 E-04	B
2-Methylnaphthalene[k]	2.14 E-05	C
Acenaphthene[k]	1.33 E-06	C

Table 3.2-1. UNCONTROLLED EMISSION FACTORS FOR 2-STROKE LEAN-BURN ENGINES

(Continued)

Pollutant	Emission Factor (lb/MMBtu)[b] (fuel input)	Emission Factor Rating
Acenaphthylene[k]	3.17 E-06	C
Acetaldehyde[k,l]	7.76 E-03	A
Acrolein[k,l]	7.78 E-03	A
Anthracene[k]	7.18 E-07	C
Benz(a)anthracene[k]	3.36 E-07	C
Benzene[k]	1.94 E-03	A
Benzo(a)pyrene[k]	5.68 E-09	D
Benzo(b)fluoranthene[k]	8.51 E-09	D
Benzo(e)pyrene[k]	2.34 E-08	D
Benzo(g,h,i)perylene[k]	2.48 E-08	D
Benzo(k)fluoranthene[k]	4.26 E-09	D
Biphenyl[k]	3.95 E-06	C
Butane	4.75 E-03	C
Butyr/Isobutyraldehyde	4.37 E-04	C
Carbon Tetrachloride[k]	6.07 E-05	C
Chlorobenzene[k]	4.44 E-05	C
Chloroform[k]	4.71 E-05	C
Chrysene[k]	6.72 E-07	C
Cyclohexane	3.08 E-04	C
Cyclopentane	9.47 E-05	C
Ethane	7.09 E-02	A
Ethylbenzene[k]	1.08 E-04	B
Ethylene Dibromide[k]	7.34 E-05	C
Fluoranthene[k]	3.61 E-07	C
Fluorene[k]	1.69 E-06	C
Formaldehyde[k,l]	5.52 E-02	A

Table 3.2-1. UNCONTROLLED EMISSION FACTORS FOR 2-STROKE LEAN-BURN ENGINES (Concluded)

Pollutant	Emission Factor (lb/MMBtu)[b] (fuel input)	Emission Factor Rating
Indeno(1,2,3-c,d)pyrene[k]	9.93 E-09	D
Isobutane	3.75 E-03	C
Methanol[k]	2.48 E-03	A
Methylcyclohexane	3.38 E-04	C
Methylene Chloride[k]	1.47 E-04	C
n-Hexane[k]	4.45 E-04	C
n-Nonane	3.08 E-05	C
n-Octane	7.44 E-05	C
n-Pentane	1.53 E-03	C
Naphthalene[k]	9.63 E-05	C
PAH[k]	1.34 E-04	D
Perylene[k]	4.97 E-09	D
Phenanthrene[k]	3.53 E-06	C
Phenol[k]	4.21 E-05	C
Propane	2.87 E-02	C
Pyrene[k]	5.84 E-07	C
Styrene[k]	5.48 E-05	A
Toluene[k]	9.63 E-04	A
Vinyl Chloride[k]	2.47 E-05	C
Xylene[k]	2.68 E-04	A

[a] Reference 7. Factors represent uncontrolled levels. For NO_x, CO, and PM10, "uncontrolled" means no combustion or add-on controls; however, the factor may include turbocharged units. For all other pollutants, "uncontrolled" means no oxidation control; the data set may include units with control techniques used for NOx control, such as PCC and SCR for lean burn engines, and PSC for rich burn engines. Factors are based on large population of engines. Factors are for engines at all loads, except as indicated. SCC = Source Classification Code. TOC = Total Organic Compounds. PM10 = Particulate Matter $\leq$ 10 microns (μm) aerodynamic diameter. A "<" sign in front of a factor means that the corresponding emission factor is based on one-half of the method detection limit.

[b] Emission factors were calculated in units of (lb/MMBtu) based on procedures in EPA

Table 3.2-2. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE LEAN-BURN ENGINES[a]
(SCC 2-02-002-54)

Pollutant	Emission Factor (lb/MMBtu)[b] (fuel input)	Emission Factor Rating
Criteria Pollutants and Greenhouse Gases		
NO_x[c] 90 - 105% Load	4.08 E+00	B
NO_x[c] <90% Load	8.47 E-01	B
CO[c] 90 - 105% Load	3.17 E-01	C
CO[c] <90% Load	5.57 E-01	B
CO_2[d]	1.10 E+02	A
SO_2[e]	5.88 E-04	A
TOC[f]	1.47 E+00	A
Methane[g]	1.25 E+00	C
VOC[h]	1.18 E-01	C
PM10 (filterable)[i]	7.71 E-05	D
PM2.5 (filterable)[i]	7.71 E-05	D
PM Condensable[j]	9.91 E-03	D
Trace Organic Compounds		
1,1,2,2-Tetrachloroethane[k]	<4.00 E-05	E
1,1,2-Trichloroethane[k]	<3.18 E-05	E
1,1-Dichloroethane	<2.36 E-05	E
1,2,3-Trimethylbenzene	2.30 E-05	D
1,2,4-Trimethylbenzene	1.43 E-05	C
1,2-Dichloroethane	<2.36 E-05	E
1,2-Dichloropropane	<2.69 E-05	E
1,3,5-Trimethylbenzene	3.38 E-05	D
1,3-Butadiene[k]	2.67E-04	D
1,3-Dichloropropene[k]	<2.64 E-05	E
2-Methylnaphthalene[k]	3.32 E-05	C
2,2,4-Trimethylpentane[k]	2.50 E-04	C
Acenaphthene[k]	1.25 E-06	C

Table 3.2-2. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE LEAN-BURN ENGINES (Continued)

Pollutant	Emission Factor (lb/MMBtu)[b] (fuel input)	Emission Factor Rating
Acenaphthylene[k]	5.53 E-06	C
Acetaldehyde[k,l]	8.36 E-03	A
Acrolein[k,l]	5.14 E-03	A
Benzene[k]	4.40 E-04	A
Benzo(b)fluoranthene[k]	1.66 E-07	D
Benzo(e)pyrene[k]	4.15 E-07	D
Benzo(g,h,i)perylene[k]	4.14 E-07	D
Biphenyl[k]	2.12 E-04	D
Butane	5.41 E-04	D
Butyr/Isobutyraldehyde	1.01 E-04	C
Carbon Tetrachloride[k]	<3.67 E-05	E
Chlorobenzene[k]	<3.04 E-05	E
Chloroethane	1.87 E-06	D
Chloroform[k]	<2.85 E-05	E
Chrysene[k]	6.93 E-07	C
Cyclopentane	2.27 E-04	C
Ethane	1.05 E-01	C
Ethylbenzene[k]	3.97 E-05	B
Ethylene Dibromide[k]	<4.43 E-05	E
Fluoranthene[k]	1.11 E-06	C
Fluorene[k]	5.67 E-06	C
Formaldehyde[k,l]	5.28 E-02	A
Methanol[k]	2.50 E-03	B
Methylcyclohexane	1.23 E-03	C
Methylene Chloride[k]	2.00 E-05	C
n-Hexane[k]	1.11 E-03	C
n-Nonane	1.10 E-04	C

Table 3.2-2. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE LEAN-BURN ENGINES
(Continued)

Pollutant	Emission Factor (lb/MMBtu)[b] (fuel input)	Emission Factor Rating
n-Octane	3.51 E-04	C
n-Pentane	2.60 E-03	C
Naphthalene[k]	7.44 E-05	C
PAH[k]	2.69 E-05	D
Phenanthrene[k]	1.04 E-05	D
Phenol[k]	2.40 E-05	D
Propane	4.19 E-02	C
Pyrene[k]	1.36 E-06	C
Styrene[k]	<2.36 E-05	E
Tetrachloroethane[k]	2.48 E-06	D
Toluene[k]	4.08 E-04	B
Vinyl Chloride[k]	1.49 E-05	C
Xylene[k]	1.84 E-04	B

[a] Reference 7. Factors represent uncontrolled levels. For NO_x, CO, and PM10, "uncontrolled" means no combustion or add-on controls; however, the factor may include turbocharged units. For all other pollutants, "uncontrolled" means no oxidation control; the data set may include units with control techniques used for NOx control, such as PCC and SCR for lean burn engines, and PSC for rich burn engines. Factors are based on large population of engines. Factors are for engines at all loads, except as indicated. SCC = Source Classification Code. TOC = Total Organic Compounds. PM-10 = Particulate Matter ≤ 10 microns (μm) aerodynamic diameter. A "<" sign in front of a factor means that the corresponding emission factor is based on one-half of the method detection limit.

[b] Emission factors were calculated in units of (lb/MMBtu) based on procedures in EPA Method 19. To convert from (lb/MMBtu) to (lb/10^6 scf), multiply by the heat content of the fuel. If the heat content is not available, use 1020 Btu/scf. To convert from (lb/MMBtu) to (lb/hp-hr) use the following equation:

$$\text{lb/hp-hr} = (\text{lb/MMBtu})\ (\text{heat input, MMBtu/hr})\ (\text{1/operating HP, 1/hp})$$

[c] Emission tests with unreported load conditions were not included in the data set.

[d] Based on 99.5% conversion of the fuel carbon to CO_2. CO_2 [lb/MMBtu] = (3.67)(%CON)(C)(D)(1/h), where %CON = percent conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.75), D = density of fuel, 4.1 E+04 lb/10^6 scf, and

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO_x[b]		CO	
	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS)[c]	280	A	84	B
Uncontrolled (Post-NSPS)[c]	190	A	84	B
Controlled - Low NO_x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO_x burners	50	D	84	B
Controlled - Low NO_x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from $lb/10^6$ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

[b] Expressed as NO_2. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_X emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_X emission factor.

[c] NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION[a]

Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
CO_2[b]	120,000	A
Lead	0.0005	D
N_2O (Uncontrolled)	2.2	E
N_2O (Controlled-low-NO_X burner)	0.64	E
PM (Total)[c]	7.6	D
PM (Condensable)[c]	5.7	D
PM (Filterable)[c]	1.9	B
SO_2[d]	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $lb/10^6$ scf to 1b/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

[b] Based on approximately 100% conversion of fuel carbon to CO_2. $CO_2[lb/10^6 \text{ scf}] = (3.67)(CON)(C)(D)$, where CON = fractional conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2×10^4 $lb/10^6$ scf.

[c] All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM_{10}, $PM_{2.5}$ or PM_1 emissions. Total PM is the sum of the filterable PM and condensible PM. Condensible PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Based on 100% conversion of fuel sulfur to SO_2. Assumes sulfur content is natural gas of 2,000 grains/10^6 scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf.

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION[a]

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
91-57-6	2-Methylnaphthalene[b, c]	2.4E-05	D
56-49-5	3-Methylcholanthrene[b, c]	<1.8E-06	E
	7,12-Dimethylbenz(a)anthracene[b,c]	<1.6E-05	E
83-32-9	Acenaphthene[b,c]	<1.8E-06	E
203-96-8	Acenaphthylene[b,c]	<1.8E-06	E
120-12-7	Anthracene[b,c]	<2.4E-06	E
56-55-3	Benz(a)anthracene[b,c]	<1.8E-06	E
71-43-2	Benzene[b]	2.1E-03	B
50-32-8	Benzo(a)pyrene[b,c]	<1.2E-06	E
205-99-2	Benzo(b)fluoranthene[b,c]	<1.8E-06	E
191-24-2	Benzo(g,h,i)perylene[b,c]	<1.2E-06	E
207-08-9	Benzo(k)fluoranthene[b,c]	<1.8E-06	E
106-97-8	Butane	2.1E+00	E
218-01-9	Chrysene[b,c]	<1.8E-06	E
53-70-3	Dibenzo(a,h)anthracene[b,c]	<1.2E-06	E
25321-22-6	Dichlorobenzene[b]	1.2E-03	E
74-84-0	Ethane	3.1E+00	E
206-44-0	Fluoranthene[b,c]	3.0E-06	E
86-73-7	Fluorene[b,c]	2.8E-06	E
50-00-0	Formaldehyde[b]	7.5E-02	B
110-54-3	Hexane[b]	1.8E+00	E
193-39-5	Indeno(1,2,3-cd)pyrene[b,c]	<1.8E-06	E
91-20-3	Naphthalene[b]	6.1E-04	E
109-66-0	Pentane	2.6E+00	E
85-01-8	Phenanathrene[b,c]	1.7E-05	D
74-98-6	Propane	1.6E+00	E

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION (Continued)

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
129-00-0	Pyrene[b, c]	5.0E-06	E
108-88-3	Toluene[b]	3.4E-03	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $1b/10^6$ scf to lb/MMBtu, divide by 1,020. Emission Factors preceeded with a less-than symbol are based on method detection limits.

[b] Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

[c] HAP because it is Polycyclic Organic Matter (POM). POM is a HAP as defined by Section 112(b) of the Clean Air Act.

[d] The sum of individual organic compounds may exceed the VOC and TOC emission factors due to differences in test methods and the availability of test data for each pollutant.

where:

L_T = transit loss from ships and barges, lb/week-10^3 gal transported
P = true vapor pressure of the transported liquid, psia
W = density of the condensed vapors, lb/gal

Emissions from gasoline truck cargo tanks during transit have been studied by a combination of theoretical and experimental techniques, and typical emission values are presented in Table 5.2-5.[11-12] Emissions depend on the extent of venting from the cargo tank during transit, which in turn depends on the vapor tightness of the tank, the pressure relief valve settings, the pressure in the tank at the start of the trip, the vapor pressure of the fuel being transported, and the degree of fuel vapor saturation of the space in the tank. The emissions are not directly proportional to the time spent in transit. If the vapor leakage rate of the tank increases, emissions increase up to a point, and then the rate changes as other determining factors take over. Truck tanks in dedicated vapor balance service usually contain saturated vapors, and this leads to lower emissions during transit because no additional fuel evaporates to raise the pressure in the tank to cause venting. Table 5.2-5 lists "typical" values for transit emissions and "extreme" values that could occur in the unlikely event that all determining factors combined to cause maximum emissions.

Table 5.2-5 (Metric And English Units). TOTAL UNCONTROLLED ORGANIC EMISSION FACTORS FOR PETROLEUM LIQUID RAIL TANK CARS AND TANK TRUCKS

Emission Source	Gasoline[a]	Crude Oil[b]	Jet Naphtha (JP-4)	Jet Kerosene	Distillate Oil No. 2	Residual Oil No. 6
Loading operations[c]						
Submerged loading - Dedicated normal service[d]						
mg/L transferred	590	240	180	1.9	1.7	0.01
lb/10^3 gal transferred	5	2	1.5	0.016	0.014	0.0001
Submerged loading - Vapor balance service[d]						
mg/L transferred	980	400	300	—[e]	—[e]	—[e]
lb/10^3 gal transferred	8	3	2.5	—[e]	—[e]	—[e]
Splash loading - Dedicated normal service						
mg/L transferred	1,430	580	430	5	4	0.03
lb/10^3 gal transferred	12	5	4	0.04	0.03	0.0003
Splash loading - Vapor balance service						
mg/L transferred	980	400	300	—[e]	—[e]	—[e]
lb/10^3 gal transferred	8	3	2.5	—[e]	—[e]	—[e]

Table 5.2-5 (cont.).

Emission Source	Gasoline[a]	Crude Oil[b]	Jet Naphtha (JP-4)	Jet Kerosene	Distillate Oil No. 2	Residual Oil No. 6
Transit losses						
Loaded with product						
mg/L transported						
Typical	0 - 1.0	ND	ND	ND	ND	ND
Extreme	0 - 9.0	ND	ND	ND	ND	ND
lb/10^3 gal transported						
Typical	0 - 0.01	ND	ND	ND	ND	ND
Extreme	0 - 0.08	ND	ND	ND	ND	ND
Return with vapor						
mg/L transported						
Typical	0 - 13.0	ND	ND	ND	ND	ND
Extreme	0 - 44.0	ND	ND	ND	ND	ND
lb/10^3 gal transported						
Typical	0 - 0.11	ND	ND	ND	ND	ND
Extreme	0 - 0.37	ND	ND	ND	ND	ND

[a] Reference 2. Gasoline factors represent emissions of VOC as well as total organics, because methane and ethane constitute a negligible weight fraction of the evaporative emissions from gasoline. VOC factors for crude oil can be assumed to be 15% lower than the total organic factors, to account for the methane and ethane content of crude oil evaporative emissions. All other products should be assumed to have VOC factors equal to total organics. The example gasoline has an RVP of 69 kPa (10 psia). ND = no data.
[b] The example crude oil has an RVP of 34 kPa (5 psia).
[c] Loading emission factors are calculated using Equation 1 for a dispensed product temperature of 16°C (60°F).
[d] Reference 2.
[e] Not normally used.

In the absence of specific inputs for Equations 1 through 5, the typical evaporative emission factors presented in Tables 5.2-5 and 5.2-6 should be used. It should be noted that, although the crude oil used to calculate the emission values presented in these tables has an RVP of 5, the RVP of crude oils can range from less than 1 up to 10. Similarly, the RVP of gasolines ranges from 7 to 13. In areas where loading and transportation sources are major factors affecting air quality, it is advisable to obtain the necessary parameters and to calculate emission estimates using Equations 1 through 5.

5.2.2.2 Service Stations -

Another major source of evaporative emissions is the filling of underground gasoline storage tanks at service stations. Gasoline is usually delivered to service stations in 30,000-liter (8,000-gal) tank trucks or smaller account trucks. Emissions are generated when gasoline vapors in the underground storage tank are displaced to the atmosphere by the gasoline being loaded into the tank. As with other loading losses, the quantity of loss in service station tank filling depends on several variables, including the method and rate of filling, the tank configuration, and the gasoline temperature, vapor pressure and composition. An average emission rate for submerged filling is 880 mg/L (7.3 lb/1000 gal) of transferred gasoline, and the rate for splash filling is 1380 mg/L (11.5 lb/1000 gal) transferred gasoline (see Table 5.2-7).[5]

as shown in Table 13.2.2-4

Table 13.2.2-4. EMISSION FACTOR FOR 1980'S VEHICLE FLEET EXHAUST, BRAKE WEAR AND TIRE WEAR

Particle Size Range[a]	*C*, Emission Factor for Exhaust, Brake Wear and Tire Wear[b] lb/VMT
$PM_{2.5}$	0.00036
PM_{10}	0.00047
PM_{30}[c]	0.00047

[a] Refers to airborne particulate matter (PM-x) with an aerodynamic diameter equal to or less than x micrometers.
[b] Units shown are pounds per vehicle mile traveled (lb/VMT).
[c] PM-30 is sometimes termed "suspendable particulate" (SP) and is often used as a surrogate for TSP.

It is important to note that the vehicle-related source conditions refer to the average weight, speed, and number of wheels for all vehicles traveling the road. For example, if 98 percent of traffic on the road are 2-ton cars and trucks while the remaining 2 percent consists of 20-ton trucks, then the mean weight is 2.4 tons. More specifically, Equations 1a and 1b are *not* intended to be used to calculate a separate emission factor for each vehicle class within a mix of traffic on a given unpaved road. That is, in the example, one should *not* determine one factor for the 2-ton vehicles and a second factor for the 20-ton trucks. Instead, only one emission factor should be calculated that represents the "fleet" average of 2.4 tons for all vehicles traveling the road.

Moreover, to retain the quality ratings when addressing a group of unpaved roads, it is necessary that reliable correction parameter values be determined for the road in question. The field and laboratory procedures for determining road surface silt and moisture contents are given in AP-42 Appendices C.1 and C.2. Vehicle-related parameters should be developed by recording visual observations of traffic. In some cases, vehicle parameters for industrial unpaved roads can be determined by reviewing maintenance records or other information sources at the facility.

In the event that site-specific values for correction parameters cannot be obtained, then default values may be used.In the absence of site-specific silt content information, an appropriate mean value from Table 13.2.2-1 may be used as a default value, but the quality rating of the equation is reduced by two letters. Because of significant differences found between different types of road surfaces and between different areas of the country, use of the default moisture content value of 0.5 percent in Equation 1b is discouraged. The quality rating should be downgraded two letters when the default moisture content value is used. (It is assumed that readers addressing industrial roads have access to the information needed to develop average vehicle information in Equation 1a for their facility.)

The effect of routine watering to control emissions from unpaved roads is discussed below in Section 13.2.2.3, “Controls”. However, all roads are subject to some natural mitigation because of rainfall and other precipitation. The Equation 1a and 1b emission factors can be extrapolated to annual

G3408C

NON-CURRENT

GAS COMPRESSION APPLICATION

GAS ENGINE SITE SPECIFIC TECHNICAL DATA

CATERPILLAR®

IACX

ENGINE SPEED (rpm):	1800	RATING STRATEGY:	STANDARD
COMPRESSION RATIO:	8.5	RATING LEVEL:	CONTINUOUS
AFTERCOOLER TYPE:	SCAC	FUEL SYSTEM:	LPG IMPCO
AFTERCOOLER WATER INLET (°F):	130		WITH AIR FUEL RATIO CONTROL
JACKET WATER OUTLET (°F):	210	**SITE CONDITIONS:**	
ASPIRATION:	TA	FUEL:	Field Gas
COOLING SYSTEM:	JW+OC, AC	FUEL PRESSURE RANGE(psig): (See note 1)	1.5-5.0
CONTROL SYSTEM:	EIS	FUEL METHANE NUMBER:	62.1
EXHAUST MANIFOLD:	WC	FUEL LHV (Btu/scf):	1027
COMBUSTION:	LOW EMISSION	ALTITUDE(ft):	2500
NOx EMISSION LEVEL (g/bhp-hr NOx):	1.0	INLET AIR TEMPERATURE(°F):	77
SET POINT TIMING:	34	STANDARD RATED POWER:	425 bhp@1800rpm

				MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
RATING		**NOTES**	**LOAD**	**100%**	**100%**	**75%**	**50%**
ENGINE POWER	(WITHOUT FAN)	(2)	bhp	425	425	319	213
INLET AIR TEMPERATURE			°F	77	77	77	77
ENGINE DATA							
FUEL CONSUMPTION (LHV)		(3)	Btu/bhp-hr	7995	7995	8302	8947
FUEL CONSUMPTION (HHV)		(3)	Btu/bhp-hr	8834	8834	9174	9886
AIR FLOW (@inlet air temp, 14.7 psia)	(WET)	(4)(5)	ft3/min	953	953	724	515
AIR FLOW	(WET)	(4)(5)	lb/hr	4227	4227	3211	2285
FUEL FLOW (60°F, 14.7 psia)			scfm	55	55	43	31
INLET MANIFOLD PRESSURE		(6)	In Hg(abs)	66.7	66.7	51.6	37.0
EXHAUST TEMPERATURE - ENGINE OUTLET		(7)	°F	880	880	827	794
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia)	(WET)	(8)(5)	ft3/min	2570	2570	1879	1303
EXHAUST GAS MASS FLOW	(WET)	(8)(5)	lb/hr	4391	4391	3338	2376
EMISSIONS DATA - ENGINE OUT							
NOx (as NO2)		(9)(10)	g/bhp-hr	1.00	1.00	1.00	1.00
CO		(9)(10)	g/bhp-hr	1.84	1.84	1.96	2.19
THC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	3.03	3.03	3.46	3.96
NMHC (mol. wt. of 15.84)		(9)(10)	g/bhp-hr	0.79	0.79	0.90	1.03
NMNEHC (VOCs) (mol. wt. of 15.84)		(9)(10)(11)	g/bhp-hr	0.53	0.53	0.60	0.69
HCHO (Formaldehyde)		(9)(10)	g/bhp-hr	0.30	0.30	0.31	0.35
CO2		(9)(10)	g/bhp-hr	538	538	558	602
EXHAUST OXYGEN		(9)(12)	% DRY	8.0	8.0	7.8	7.4
HEAT REJECTION							
HEAT REJ. TO JACKET WATER (JW)		(13)	Btu/min	14743	14743	13123	10692
HEAT REJ. TO ATMOSPHERE		(13)	Btu/min	2265	2265	1764	1267
HEAT REJ. TO LUBE OIL (OC)		(13)	Btu/min	2331	2331	2075	1691
HEAT REJ. TO AFTERCOOLER (AC)		(13)(14)	Btu/min	3283	3283	2153	1130
COOLING SYSTEM SIZING CRITERIA							
TOTAL JACKET WATER CIRCUIT (JW+OC)		(14)	Btu/min	19015			
TOTAL AFTERCOOLER CIRCUIT (AC)		(14)(15)	Btu/min	3447			
A cooling system safety factor of 0% has been added to the cooling system sizing criteria.							

CONDITIONS AND DEFINITIONS

Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site inlet air temperature. 100% rating at maximum inlet air temperature is the maximum engine capability for the specified fuel at site altitude and maximum site inlet air temperature. Maximum rating is the maximum capability at the specified aftercooler inlet temperature for the specified fuel at site altitude and reduced inlet air temperature. Lowest load point is the lowest continuous duty operating load allowed. No overload permitted at rating shown.

For notes information consult page three.

2.0 PERFORMANCE OVERVIEW SUMMARY

Results of the emissions test are summarized in Table 2-1 and Table 2-2 below; the site conditions are tabulated in Table 2-3: Test Conditions and Operational Data. Emissions rates and factors were calculated using the methods discussed in Section 6 – Emissions Calculations.

Table 2-1: Customer and Source Summary

TEST INFORMATION	
Test Prepared For	IACX Energy 5400 LBJ Freeway, Suite 460 Dallas, TX 75240
Responsible Contact	Russell Gibbs Phone: 575-363-3142 Email: russell@iacx.com
Test Location	Bitter Lake
Unit Number	C-891
Test Date	May 16, 2018
Source	Cooper Bessemer GMVH-10C
Source Serial Number	61569
Site Rated Horsepower	2250
Source Purpose	Compressor
Permit Number	P047R2M1
Hour Meter Reading	222248

Table 2-2: Test Results

TEST RESULTS AND UNIT OPERATIONAL DATA					
Parameter	**Units**	**Average**	**Run 1**	**Run 2**	**Run 3**
Fuel Consumption	(sft^3/hr)	11,430.48	11,411.49	11,433.93	11,446.02
O2 Percentage	%	15.05	15.11	15.04	15.00
Adjusted O2 Percentage	%	15.08	15.12	15.07	15.05
Exhaust Flow Rate	($dsft^3/hr$)	455,258.36	433111.21	428784.89	426355.72
Engine Power	(bhp)	1,412.35	1,410.01	1,412.78	1,414.27
Engine Load	%	62.77	62.67	62.79	62.86
Speed	RPM	319.67	320.00	320.00	319.00
Parameter	**Permitted**	**Average**	**Run 1**	**Run 2**	**Run 3**
CO					
ppmvd		183.61	193.95	181.22	175.65
ppm at 15% O2		184.54	196.16	181.95	175.62
lb/MMBTU HHV		0.42	0.44	0.41	0.40
g/bhp-hr		1.95	2.08	1.93	1.86
lb/hr		6.08	6.45	6.00	5.79
ton/yr	39.00	26.63	28.26	26.27	25.38
NOx					
ppmvd		159.30	139.53	163.37	174.99
ppm at 15% O2		160.10	141.11	164.03	174.96
lb/MMBTU HHV		0.59	0.52	0.61	0.65
g/bhp-hr		2.78	2.45	2.85	3.04
lb/hr		8.66	7.62	8.88	9.48
ton/yr	87.60	37.95	33.39	38.89	41.53

Table 2-3: Test Conditions and Operational Data

TEST RUN TIMES					
			Run 1	Run 2	Run 3
		Start Time	14:36:30	15:43:00	16:52:00
		End Time	15:37:30	16:44:00	17:53:00
SITE CONDITIONS					
Parameter	Units	Average	Run 1	Run 2	Run 3
Ambient Temperature	F	93.00	91.00	93.00	95.00
Humidity	%	15.67	20.00	15.00	12.00
Barometric Pressure	"Hg	29.73	29.77	29.73	29.70
ENGINE DATA					
Ignition Timing	BTDC	3.00	3.00	3.00	3.00
Exhaust Temperature	°F	642.00	639.00	639.00	648.00
Manifold Pressure	PSIg	12.07	12.10	12.20	11.90
Speed	RPM	319.67	320.00	320.00	319.00
Intake Manifold Temp	°F	115.67	114.00	115.00	118.00

2.0 PERFORMANCE OVERVIEW SUMMARY

Results of the emissions test are summarized in Table 2-1 and Table 2-2 below; the site conditions are tabulated in Table 2-3: Test Conditions and Operational Data. Emissions rates and factors were calculated using the methods discussed in Section 6 – Emissions Calculations.

Table 2-1: Customer and Source Summary

TEST INFORMATION	
Test Prepared For	IACX Energy 5400 LBJ Freeway, Suite 460 Dallas, TX 75240
Responsible Contact	Russell Gibbs Phone: 575-363-3142 Email: russell@iacx.com
Test Location	Bitter Lake
Unit Number	C-893
Test Date	Jun 22, 2018
Source	Cooper Bessemer GMVH-10C
Source Serial Number	48776
Site Rated Horsepower	2250
Source Purpose	Compressor
Manufacture Date	Apr 07, 1981
Permit Number	P047R2M1
Hour Meter Reading	191471

Table 2-2: Test Results

TEST RESULTS AND UNIT OPERATIONAL DATA					
Parameter	**Units**	**Average**	**Run 1**	**Run 2**	**Run 3**
Fuel Consumption	(sft^3/hr)	13,166.96	12,654.23	13,271.72	13,574.93
O2 Percentage	%	14.69	14.86	14.65	14.55
Adjusted O2 Percentage	%	14.76	14.90	14.74	14.65
Exhaust Flow Rate	($dsft^3/hr$)	412,637.62	403389.05	408928.27	411749.86
Engine Power	(bhp)	1,349.48	1,296.93	1,360.22	1,391.29
Engine Load	%	59.98	57.64	60.45	61.84
Speed	RPM	320.33	320.00	320.00	321.00
Parameter	**Permitted**	**Average**	**Run 1**	**Run 2**	**Run 3**
CO					
ppmvd		241.35	252.44	241.36	230.23
ppm at 15% O2		230.23	246.07	229.28	215.76
lb/MMBTU HHV		0.52	0.55	0.52	0.49
g/bhp-hr		2.44	2.60	2.43	2.28
lb/hr		7.24	7.44	7.27	7.00
ton/yr	39.00	31.73	32.61	31.86	30.67
NOx					
ppmvd		87.28	65.94	89.11	106.80
ppm at 15% O2		83.26	64.27	84.65	100.09
lb/MMBTU HHV		0.31	0.24	0.31	0.37
g/bhp-hr		1.45	1.12	1.47	1.74
lb/hr		4.30	3.19	4.41	5.34
ton/yr	87.60	18.85	13.99	19.32	23.37

Table 2-3: Test Conditions and Operational Data

TEST RUN TIMES					
			Run 1	Run 2	Run 3
		Start Time	08:20:00	09:34:00	10:48:30
		End Time	09:21:00	10:35:00	11:50:30
SITE CONDITIONS					
Parameter	Units	Average	Run 1	Run 2	Run 3
Ambient Temperature	F	90.67	86.00	91.00	95.00
Humidity	%	29.00	35.00	28.00	24.00
Barometric Pressure	"Hg	29.71	29.73	29.71	29.69
ENGINE DATA					
Ignition Timing	BTDC	2.87	3.20	2.70	2.70
Exhaust Temperature	°F	654.33	643.00	656.00	664.00
Manifold Pressure	PSIg	6.07	6.20	6.10	5.90
Speed	RPM	320.33	320.00	320.00	321.00
Intake Manifold Temp	°F	111.00	106.00	111.00	116.00

HOWARD
Athens, TX (903) 677-0700 . Beeville, TX (361) 354-5200 . Midland, TX (432) 704-5351

LIQUID EXTENDED ANALYSIS REPORT

LABORATORY REPORT NUMBER 190107-1020-12-010719-02

PHYSICAL CONSTANTS PER GPA 2145-09 & TP-17 (1998)

CUSTOMER :	IACX	DATE SAMPLED:	12/27/2018
STATION:	20126	DATE ANALYZED:	01/07/2019
PRODUCER:	IACX	EFFECTIVE DATE:	12/01/2018
LEASE:	BITTER LAKES		

COMPONENT	MOLE %	LIQUID VOL %	WT. %
H2S	0.000	0.000	0.000
OXYGEN	0.000	0.000	0.000
NITROGEN	0.031	0.009	0.011
CARBON DIOXIDE	0.000	0.000	0.000
METHANE	0.056	0.024	0.011
ETHANE	2.243	1.536	0.817
PROPANE	2.873	2.028	1.530
I-BUTANE	1.862	1.560	1.310
N-BUTANE	7.966	6.430	5.606
I-PENTANE	10.254	9.602	8.958
N-PENTANE	13.205	12.256	11.536
HEXANE PLUS	61.510	66.555	70.221
TOTAL	100.000	100.000	100.000

IDEAL SP. GRAVITY	0.6703	BTU / GAL	116007.20
MOL. WT.	82.588	VAPOR PRESS.	39.30
CUBIC FT / GAL	25.678	LBS / GAL	5.59
C1/C2 LV % RATIO	1.563	API GRAVITY	79.60
CO2/C2 LV % RATIO	0.000	SP GRAV AS VAPOR	2.85

SAMPLED BY	DT	SAMPLE PRESS:	
SAMPLE TYPE:	SPOT	SAMPLE TEMP:	
CYLINDER NO.:	5152	COUNTY / STATE:	0
COMMENT:	SPOT	ANALYST	MIKE HOBGOOD

* SEE NEXT PAGE FOR C6+ COMPOSITIONAL BREAKDOWN

05-27-2016

HOWARD
Athens, TX (903) 677-0700 . Beeville, TX (361) 354-5200 . Edmond, OK (405) 525-0579

STATION: 20126 LEASE: BITTER LAKES

C6+ FRACTION COMPOSITION

HEXANE ISOMERS (C6'S)		MOLE %	LIQ VOL %	WT. %
2,2-Dimethylbutane	P	0.963	1.029	1.005
2,3-Dimethylbutane	PN	0.000	0.000	0.000
2-Methylpentane	P	7.511	7.975	7.837
3-Methylpentane	P	4.516	4.716	4.712
Methylcyclopentane	N	0.000	0.000	0.000
Benzene	A	1.287	0.922	1.218
Cyclohexane	N	5.380	4.686	5.483
n-Hexane	P	12.773	13.448	13.328
C6 TOTALS		**32.430**		
HEPTANE ISOMERS (C7'S)				
3,3-Dimethylpentane	P	0.170	0.198	0.206
2,3-Dimethylpentane	P	0.000	0.000	0.000
2,2-Dimethylpentane	P	0.422	0.506	0.513
2,4-Dimethylpentane	P	1.224	1.468	1.485
2 & 3-Methylhexane	P	0.429	0.504	0.521
1,t-3-Dimethylcyclopentane	N	0.000	0.000	0.000
1,c-3-Dimethylcyclopentane	N	0.000	0.000	0.000
1,t-2-Dimethylcyclopentane	N	0.000	0.000	0.000
3-Ethylpentane	N	0.000	0.000	0.000
Toluene	A	1.026	0.879	1.145
Methylcyclohexane	N	7.920	8.147	9.416
Ethylcyclopentane	N	0.000	0.000	0.000
n-Heptane	P	8.547	10.097	10.370
C7 TOTALS		**19.738**		
OCTANE ISOMERS (C8'S)				
2,4 & 2,5-Dimethylhexane	P	0.627	0.833	0.868
1,t-2,c-4-Trimethylcyclopentane	N	0.000	0.000	0.000
1,t-2,c-3-Trimethylcyclopentane	N	0.000	0.000	0.000
2-Methylheptane	P	2.470	3.258	3.416
1,c-2,t-4-Trimethylcyclopentane	N	0.000	0.000	0.000
3-Methylheptane	P	0.763	0.995	1.055
1,c-3-Dimethylcyclohexane	N	0.088	0.103	0.119
1,t-4-Dimethylcyclohexane	N	0.000	0.000	0.000
methyl-ethylcyclopentanes	N	0.000	0.000	0.000
1,t-3 & 1,c-4 Dimethylcyclohexane	N	0.400	0.461	0.543
1,c-2-Dimethylcyclohexane	N	0.243	0.276	0.330
Ethylcyclohexane	N	0.787	0.904	1.070
Ethylbenzene	A	0.025	0.025	0.032
m & p-Xylene	A	0.093	0.092	0.119
o-Xylene	A	0.090	0.087	0.115
Cyclooctane	P	0.029	0.031	0.039
n-Octane	P	3.257	4.272	4.505
C8 TOTALS		**8.871**		

HOWARD
Athens, TX (903) 677-0700 . Beeville, TX (361) 354-5200 . Edmond, OK (405) 525-0579

STATION: 20126 **LEASE:** BITTER LAKES

C6+ FRACTION COMPOSITION

NONANE ISOMERS (C9'S)		MOLE %	LIQ VOL %	WT. %
Trimethylhexanes	P	0.000	0.000	0.000
Dimethylpentanes	P	0.000	0.000	0.000
Isopropylcyclopentane	N	0.000	0.000	0.000
n-Propylcyclopentane	N	0.000	0.000	0.000
3-Methyloctane	P	0.000	0.000	0.000
Trimethylcyclohexanes	N	0.000	0.000	0.000
Isopropylbenzene	A	0.029	0.032	0.042
Isopropylcyclohexane	N	0.000	0.000	0.000
n-Propylcyclohexane	N	0.022	0.028	0.033
n-Propyllbenzene	A	0.033	0.037	0.048
m-Ethyltoluene	A	0.000	0.000	0.000
p-Ethyltoluene	A	0.000	0.000	0.000
1,3,5-Trimethylbenzene	A	0.004	0.004	0.006
4 & 5-Methylnonane	P	0.000	0.000	0.000
o-Ethyltoluene & 3-Methylnonane	AP	0.000	0.000	0.000
1,2,3-Trimethylbenzene	A	0.000	0.000	0.000
n-Nonane	P	0.024	0.034	0.037
C9 TOTALS		**0.111**		
DECANE ISOMERS (C10'S)				
2-Methylnonane	P	0.000	0.000	0.000
tert-Butylbenzene	A	0.013	0.016	0.020
1,2,4-Trimethylbenzene	A	0.029	0.032	0.042
Isobutylcyclohexane & tert-Butylcyclohexane		0.192	0.267	0.326
Isobutylbenzene	A	0.000	0.000	0.000
sec-Butylbenzene	A	0.005	0.007	0.009
n-Butylcyclohexane	N	0.015	0.022	0.026
1,3-Diethylbenzene	A	0.000	0.000	0.000
1,2-Diethylbenzene & n-Butylbenzene	A	0.010	0.013	0.016
1,4-Diethylbenzene	A	0.000	0.000	0.000
n-Decane	P	0.096	0.151	0.166
C10 TOTALS		**0.359**		
UNDECANE ISOMERS (C11'S)				
n-Undecane	P	0.000	0.000	0.000
DODECANE ISOMERS (C12'S)				
n-Dodecane +	P	0.000	0.000	0.000

x Michael Holsomb.
ANALYST

Bryan Research & Engineering, LLC

ProMax® 5.0

Simulation Report

Project: Bitter Lake - Tank Emissions.pmx

Licensed to Resolute Compliance, LLC and Affiliates

Client Name: IACX
Location: Bitter Lake
Job: NSR - Tanks

ProMax Filename: C:\Users\Kcurtis\OneDrive - Resolute Compliance, LLC\Env\Projects\Env-IACX-Bitter Lake CS NSR-0005\Simulations\Bitter Lake - Tank Emissions.pmx
ProMax Version: 5.0.20259.0
Simulation Initiated: 10/21/2021 5:13:57 PM

Bryan Research & Engineering, LLC
Chemical Engineering Consultants
P.O. Box 4747 Bryan, Texas 77805
Office: (979) 776-5220
FAX: (979) 776-4818
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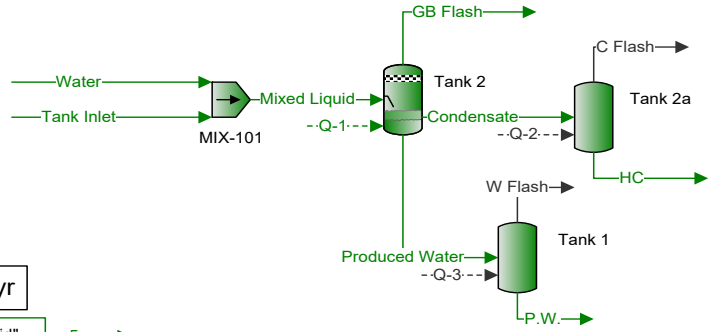
http://www.bre.com/

Report Navigator can be activated via the ProMax Navigator Toolbar.
An asterisk (*), throughout the report, denotes a user specified value.
A question mark (?) after a value, throughout the report, denotes an extrapolated or approximate value.

Bitter Lake Compressor Station

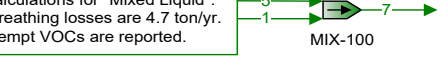
Tank Simulation using Updated November 2019 AP-42 Section 7 Tank Working and Breathing Emissions

TP: 300 bbl/day
61% HC, 39% Water



"GB Flash" VOCs = 89.38 ton/yr

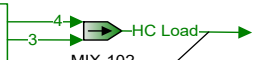
Annual tank loss calculations for "Mixed Liquid".
Total working and breathing losses are 4.7 ton/yr.
* Only Non-Exempt VOCs are reported.



Annual – Tank 2, 1 x 500 bbl

"C Flash" VOCs = 0 ton/yr

Annual tank loss calculations for "HC".
Total working and breathing losses are 18.74 ton/yr.
* Only Non-Exempt VOCs are reported.

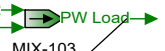


Annual – Tank 2a, 1 x 500 bbl

Properties	HC Load	
Molecular Weight(Total)	51.887	lb/lbmol

"W Flash" VOCs = 0 ton/yr

Annual tank loss calculations for "P.W.".
Total working and breathing losses are 0.0007699 ton/yr.
* Only Non-Exempt VOCs are reported.



Annual – Tank 1, 1 x 500 bbl

Properties	PW Load	
Molecular Weight(Total)	18.313	lb/lbmol

Process Streams		C Flash	Condensate	GB Flash	HC	HC Load	Mixed Liquid	P.W.	Produced Water	PW Load
Composition	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	From Block:	Tank 2a	Tank 2	Tank 2	Tank 2a	MIX-102	MIX-101	Tank 1	Tank 2	MIX-103
	To Block:	--	Tank 2a	--	--	--	Tank 2	--	Tank 1	--
Mole Fraction			%	%	%	%	%	%	%	%
H2S			0	0	0	0	0	0	0	0
Oxygen			0	0	0	0	0	0	0	0
Nitrogen			0.00172106	1.10642	0.00172106	0.00338790	0.00572543	1.42274E-05	1.42274E-05	0.0140528
Carbon Dioxide			0	0	0	0	0	0	0	0
Methane			0.00966319	1.75382	0.00966319	0.0792096	0.0103427	4.62087E-05	4.62087E-05	0.0757185
Ethane			1.32987	35.5783	1.32987	29.8868	0.414263	0.00147153	0.00147153	1.95686
Propane			2.44168	18.5979	2.44168	19.9711	0.530618	0.000545750	0.000545750	0.163102
i-Butane			1.77449	5.02015	1.77449	5.86880	0.343895	0.000110297	0.000110297	0.0105952
n-Butane			7.78496	14.3695	7.78496	17.9593	1.47125	0.000383072	0.000383072	0.0264928
i-Pentane			10.3159	7.68772	10.3159	9.23549	1.89383	0.000152587	0.000152587	0.00360991
n-Pentane			13.3574	7.24944	13.3574	8.85523	2.43885	5.14839E-05	5.14839E-05	0.000621285
Heptane			19.1843	0.837694	19.1843	1.06378	3.45595	3.21723E-06	3.21723E-06	2.12946E-06
Octane			8.98448	0.117593	8.98448	0.134248	1.61716	1.82287E-07	1.82287E-07	1.69204E-08
Nonane			0.113925	0.000439804	0.113925	0.000451459	0.0205007	8.21628E-10	8.21628E-10	2.08546E-11
Decane			0.369513	0.000451951	0.369513	0.000409992	0.0664889	2.36079E-10	2.36079E-10	5.58404E-13
Water			0.0318350	2.00883	0.0318350	0.000273603	81.5309	99.9961	99.9961	97.7446
Benzene			1.31176	0.201529	1.31176	0.154782	0.237698	0.000843501	0.000843501	0.00359700
Toluene			1.05135	0.0434738	1.05135	0.0358881	0.189493	0.000135054	0.000135054	0.000165743
Ethylbenzene			0.0256490	0.000308482	0.0256490	0.000280494	0.00461729	8.94708E-07	8.94708E-07	3.51227E-07
o-Xylene			0.0923411	0.000863570	0.0923411	0.000697262	0.0166222	3.68878E-06	3.68878E-06	1.00072E-06
2,2-Dimethylbutane			0.980058	0.309802	0.980058	0.406437	0.177858	2.49148E-06	2.49148E-06	1.86941E-05
2,3-Dimethylbutane			0	0	0	0	0	0	0	0
2-Methylpentane			7.66524	1.63606	7.66524	2.06933	1.38722	1.68538E-05	1.68538E-05	9.49675E-05
3-Methylpentane			4.61180	0.868785	4.61180	1.10982	0.834066	2.24986E-05	2.24986E-05	0.000150675
Methylcyclopentane			0	0	0	0	0	0	0	0
Cyclohexane			5.50396	0.665434	5.50396	0.670662	0.993640	7.10399E-05	7.10399E-05	0.000290902
nC6			13.0581	1.94548	13.0581	2.49359	2.35906	9.69081E-06	9.69081E-06	2.68673E-05
Molar Flow		lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
H2S		0	0	0	0	0	0	0	0	0
Oxygen		0	0	0	0	0	0	0	0	0
Nitrogen		0	0.000358562	0.00625737	0.000358562	3.37914E-06	0.00662936	1.34291E-05	1.34291E-05	2.47030E-07
Carbon Dioxide		0	0	0	0	0	0	0	0	0
Methane		0	0.00201321	0.00991880	0.00201321	7.90050E-05	0.0119756	4.36158E-05	4.36158E-05	1.33103E-06
Ethane		0	0.277063	0.201214	0.277063	0.0298096	0.479666	0.00138895	0.00138895	3.43991E-05
Propane		0	0.508696	0.105181	0.508696	0.0199196	0.614392	0.000515126	0.000515126	2.86713E-06
i-Butane		0	0.369694	0.0283916	0.369694	0.00585364	0.398189	0.000104108	0.000104108	1.86249E-07
n-Butane		0	1.62190	0.0812674	1.62190	0.0179129	1.70353	0.000361576	0.000361576	4.65709E-07
i-Pentane		0	2.14920	0.0434781	2.14920	0.00921163	2.19282	0.000144025	0.000144025	6.34577E-08
n-Pentane		0	2.78285	0.0409994	2.78285	0.00883236	2.82389	4.85950E-05	4.85950E-05	1.09214E-08
Heptane		0	3.99683	0.00473761	3.99683	0.00106103	4.00157	3.03670E-06	3.03670E-06	3.74332E-11
Octane		0	1.87181	0.000665052	1.87181	0.000133901	1.87247	1.72058E-07	1.72058E-07	2.97439E-13
Nonane		0	0.0237349	2.48732E-06	0.0237349	4.50293E-07	0.0237374	7.75523E-10	7.75523E-10	3.66598E-16
Decane		0	0.0769836	2.55603E-06	0.0769836	4.08933E-07	0.0769862	2.22832E-10	2.22832E-10	9.81602E-18
Water		0	0.00663245	0.0113610	0.00663245	2.72896E-07	94.4029	94.3849	94.3849	0.00171822
Benzene		0	0.273290	0.00113975	0.273290	0.000154382	0.275225	0.000796169	0.000796169	6.32307E-08
Toluene		0	0.219037	0.000245868	0.219037	3.57954E-05	0.219411	0.000127476	0.000127476	2.91355E-09
Ethylbenzene		0	0.00534367	1.74463E-06	0.00534367	2.79770E-07	0.00534626	8.44502E-07	8.44502E-07	6.17412E-12
o-Xylene		0	0.0192382	4.88395E-06	0.0192382	6.95461E-07	0.0192465	3.48178E-06	3.48178E-06	1.75913E-11
2,2-Dimethylbutane		0	0.204184	0.00175210	0.204184	0.000405387	0.205938	2.35167E-06	2.35167E-06	3.28619E-10
2,3-Dimethylbutane		0	0	0	0	0	0	0	0	0
2-Methylpentane		0	1.59696	0.00925278	1.59696	0.00206399	1.60623	1.59080E-05	1.59080E-05	1.66941E-09
3-Methylpentane		0	0.960814	0.00491345	0.960814	0.00110696	0.965749	2.12361E-05	2.12361E-05	2.64868E-09
Methylcyclopentane		0	0	0	0	0	0	0	0	0
Cyclohexane		0	1.14668	0.00376339	1.14668	0.000668929	1.15052	6.70536E-05	6.70536E-05	5.11368E-09
nC6		0	2.72050	0.0110027	2.72050	0.00248715	2.73151	9.14701E-06	9.14701E-06	4.72293E-10
Mass Fraction			%	%	%	%	%	%	%	%
H2S			0	0	0	0	0	0	0	0
Oxygen			0	0	0	0	0	0	0	0
Nitrogen			0.000575975	0.649309	0.000575975	0.00182910	0.00534963	2.21218E-05	2.21218E-05	0.0214961
Carbon Dioxide			0	0	0	0	0	0	0	0
Methane			0.00185197	0.589419	0.00185197	0.0244901	0.00553420	4.11455E-05	4.11455E-05	0.0663289
Ethane			0.477719	22.4116	0.477719	17.3197	0.415475	0.00245592	0.00245592	3.21299
Propane			1.28626	17.1801	1.28626	16.9722	0.780417	0.00133572	0.00133572	0.392722
i-Butane			1.23213	6.11260	1.23213	6.57404	0.666680	0.000355822	0.000355822	0.0336263
n-Butane			5.40556	17.4966	5.40556	20.1174	2.85219	0.00123580	0.00123580	0.0840813
i-Pentane			8.89159	11.6197	8.89159	12.8419	4.55741	0.000611047	0.000611047	0.0142218
n-Pentane			11.5131	10.9572	11.5131	12.3132	5.86899	0.000206171	0.000206171	0.00244765
Heptane			22.9649	1.75845	22.9649	2.05433	11.5503	1.78931E-05	1.78931E-05	1.16513E-05
Octane			12.2605	0.281400	12.2605	0.295545	6.16135	1.15573E-06	1.15573E-06	1.05540E-07
Nonane			0.174556	0.00118168	0.174556	0.00111592	0.0876988	5.84894E-09	5.84894E-09	1.46052E-10
Decane			0.628089	0.00134713	0.628089	0.00112426	0.315535	1.86437E-09	1.86437E-09	4.33838E-12
Water			0.00685155	0.758145	0.00685155	9.49954E-05	48.9905	99.9888	99.9888	96.1532
Benzene			1.22409	0.329778	1.22409	0.233012	0.619286	0.00365704	0.00365704	0.0153422
Toluene			1.15726	0.0839143	1.15726	0.0637283	0.582350	0.000690677	0.000690677	0.000833885
Ethylbenzene			0.0325308	0.000686087	0.0325308	0.000573913	0.0163500	5.27217E-06	5.27217E-06	2.03610E-06
o-Xylene			0.117117	0.00192064	0.117117	0.00142665	0.0588599	2.17366E-05	2.17366E-05	5.80126E-06
2,2-Dimethylbutane			1.00897	0.559287	1.00897	0.675020	0.511217	1.19170E-05	1.19170E-05	8.79667E-05
2,3-Dimethylbutane			0	0	0	0	0	0	0	0
2-Methylpentane			7.89135	2.95358	7.89135	3.43680	3.98728	8.06135E-05	8.06135E-05	0.000446877
3-Methylpentane			4.74784	1.56842	4.74784	1.84322	2.39736	0.000107613	0.000107613	0.000709014
Methylcyclopentane			0	0	0	0	0	0	0	0
Cyclohexane			5.53377	1.17321	5.53377	1.08780	2.78921	0.000331843	0.000331843	0.00133684
nC6			13.4433	3.51219	13.4433	4.14143	6.78066	4.63522E-05	4.63522E-05	0.000126426

Tank Inlet	W Flash	Water	1	2	3	4	5	6	7
Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
--	Tank 1	--	--	--	--	--	--	--	MIX-100
MIX-101	--	MIX-101	MIX-100	MIX-103	MIX-102	MIX-102	MIX-100	MIX-103	--
%		%	%	%	%	%	%	%	%
0*		0*	0*	0*	0*	0*	0*	0*	0
0*		0*	0*	0*	0*	0*	0*	0*	0
0.031*		0*	0.0236570*	0.0140528*	0.00338790*	0.00338790*	0.0236570*	0.0140528*	0.0236570
0*		0*	0*	0*	0*	0*	0*	0*	0
0.056*		0*	0.186706*	0.0757185*	0.0792096*	0.0792096*	0.186706*	0.0757185*	0.186706
2.243*		0*	26.9898*	1.95686*	29.8868*	29.8868*	26.9898*	1.95686*	26.9898
2.873*		0*	16.5476*	0.163102*	19.9711*	19.9711*	16.5476*	0.163102*	16.5476
1.862*		0*	5.07481*	0.0105952*	5.86880*	5.86880*	5.07481*	0.0105952*	5.07481
7.966*		0*	15.8203*	0.0264928*	17.9593*	17.9593*	15.8203*	0.0264928*	15.8203
10.254*		0*	8.36161*	0.00360991*	9.23549*	9.23549*	8.36161*	0.00360991*	8.36161
13.205*		0*	8.06544*	0.000621285*	8.85523*	8.85523*	8.06544*	0.000621285*	8.06544
18.712*		0*	0.985644*	2.12946E-06*	1.06378*	1.06378*	0.985644*	2.12946E-06*	0.985644
8.756*		0*	0.124543*	1.69204E-08*	0.134248*	0.134248*	0.124543*	1.69204E-08*	0.124543
0.111*		0*	0.000418989*	2.08546E-11*	0.000451459*	0.000451459*	0.000418989*	2.08546E-11*	0.000418989
0.36*		0*	0.000380551*	5.58404E-13*	0.000409992*	0.000409992*	0.000380551*	5.58404E-13*	0.000380551
0*		100*	11.4196*	97.7446*	0.000273603*	0.000273603*	11.4196*	97.7446*	11.4196
1.287*		0*	0.143251*	0.00359700*	0.154782*	0.154782*	0.143251*	0.00359700*	0.143251
1.026*		0*	0.0332750*	0.000165743*	0.0358881*	0.0358881*	0.0332750*	0.000165743*	0.0332750
0.025*		0*	0.000260270*	3.51227E-07*	0.000280494*	0.000280494*	0.000260270*	3.51227E-07*	0.000260270
0.09*		0*	0.000647078*	1.00072E-06*	0.000697262*	0.000697262*	0.000647078*	1.00072E-06*	0.000647078
0.963*		0*	0.372941*	1.86941E-05*	0.406437*	0.406437*	0.372941*	1.86941E-05*	0.372941
0*		0*	0*	0*	0*	0*	0*	0*	0
7.511*		0*	1.90543*	9.49675E-05*	2.06933*	2.06933*	1.90543*	9.49675E-05*	1.90543
4.516*		0*	1.02283*	0.000150675*	1.10982*	1.10982*	1.02283*	0.000150675*	1.02283
0*		0*	0*	0*	0*	0*	0*	0*	0
5.38*		0*	0.619628*	0.000290902*	0.670662*	0.670662*	0.619628*	0.000290902*	0.619628
12.773*		0*	2.30118*	2.68673E-05*	2.49359*	2.49359*	2.30118*	2.68673E-05*	2.30118
lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h	lbmol/h
0*	0	0*	0*	0*	0*	0*	0*	0*	0
0*	0	0*	0*	0*	0*	0*	0*	0*	0
0.00662936*	0	0*	2.94612E-07*	2.16563E-07*	4.72837E-07*	2.90631E-06*	6.40057E-06*	3.04676E-08*	6.69518E-06
0*	0	0*	0*	0*	0*	0*	0*	0*	0
0.0119756*	0	0*	2.32514E-06*	1.16687E-06*	1.10550E-05*	6.79500E-05*	5.05147E-05*	1.64163E-07*	5.28398E-05
0.479666*	0	0*	0.000336116*	3.01565E-05*	0.00417120*	0.0256384*	0.00730227*	4.24262E-06*	0.00763839
0.614392*	0	0*	0.000206075*	2.51351E-06*	0.00278731*	0.0171322*	0.00447708*	3.53618E-07*	0.00468315
0.398189*	0	0*	6.31990E-05*	1.63278E-07*	0.000819089*	0.00503455*	0.00137302*	2.29711E-08*	0.00143622
1.70353*	0	0*	0.000197018*	4.08270E-07*	0.00250652*	0.0154064*	0.00428029*	5.74383E-08*	0.00447731
2.19282*	0	0*	0.000104131*	5.56311E-08*	0.00128897*	0.00792267*	0.00226229*	7.82657E-09*	0.00236642
2.82389*	0	0*	0.000100443*	9.57440E-09*	0.00123589*	0.00759646*	0.00218216*	1.34699E-09*	0.00228260
4.00157*	0	0*	1.22747E-05*	3.28164E-11*	0.000148468*	0.000912564*	0.000266673*	4.61683E-12*	0.000278947
1.87247*	0	0*	1.55099E-06*	2.60754E-13*	1.87366E-05*	0.000115165*	3.36959E-05*	3.66847E-14*	3.52469E-05
0.0237374*	0	0*	5.21787E-09*	3.21383E-16*	6.30087E-08*	3.87284E-07*	1.13360E-07*	4.52144E-17*	1.18578E-07
0.0769862*	0	0*	4.73918E-09*	8.60536E-18*	5.72212E-08*	3.51711E-07*	1.02961E-07*	1.21066E-18*	1.07700E-07
0*	0	94.4029*	0.000142213*	0.00150631*	3.81858E-08*	2.34710E-07*	0.00308964*	0.000211918*	0.00323186
0.275225*	0	0*	1.78397E-06*	5.54321E-08*	2.16024E-05*	0.000132780*	3.87576E-05*	7.79857E-09*	4.05415E-05
0.219411*	0	0*	4.14389E-07*	2.55421E-09*	5.00879E-06*	3.07866E-05*	9.00277E-06*	3.59343E-10*	9.41716E-06
0.00534626*	0	0*	3.24126E-09*	5.41263E-12*	3.91476E-08*	2.40622E-07*	7.04178E-08*	7.61487E-13*	7.36591E-08
0.0192465*	0	0*	8.05836E-09*	1.54217E-11*	9.73146E-08*	5.98147E-07*	1.75071E-07*	2.16963E-12*	1.83130E-07
0.205938*	0	0*	4.64441E-06*	2.88089E-10*	5.67250E-05*	0.000348662*	0.000100902*	4.05303E-11*	0.000105546
0*	0	0*	0*	0*	0*	0*	0*	0*	0
1.60623*	0	0*	2.37292E-05*	1.46351E-09*	0.000288810*	0.00177518*	0.000515527*	2.05897E-10*	0.000539256
0.965749*	0	0*	1.27378E-05*	2.32200E-09*	0.000154894*	0.000952063*	0.000276733*	3.26675E-10*	0.000289471
0*	0	0*	0*	0*	0*	0*	0*	0*	0
1.15052*	0	0*	7.71651E-06*	4.48298E-09*	9.36020E-05*	0.000575327*	0.000167645*	6.30697E-10*	0.000175361
2.73151*	0	0*	2.86576E-05*	4.14043E-10*	0.000348023*	0.00213913*	0.000622599*	5.82504E-11*	0.000651256
%		%	%	%	%	%	%	%	%
0*		0*	0	0	0	0	0	0	0
0*		0*	0	0	0	0	0	0	0
0.0104875*		0*	0.0137702	0.0214961	0.00182910	0.00182910	0.0137702	0.0214961	0.0137702
0*		0*	0	0	0	0	0	0	0
0.0108494*		0*	0.0622364	0.0663289	0.0244901	0.0244901	0.0622364	0.0663289	0.0622364
0.814505*		0*	16.8629	3.21299	17.3197	17.3197	16.8629	3.21299	16.8629
1.52995*		0*	15.1616	0.392722	16.9722	16.9722	15.1616	0.392722	15.1616
1.30697*		0*	6.12881	0.0336263	6.57404	6.57404	6.12881	0.0336263	6.12881
5.59149*		0*	19.1061	0.0840813	20.1174	20.1174	19.1061	0.0840813	19.1061
8.93444*		0*	12.5352	0.0142218	12.8419	12.8419	12.5352	0.0142218	12.5352
11.5057*		0*	12.0913	0.00244765	12.3132	12.3132	12.0913	0.00244765	12.0913
22.6434*		0*	2.05216	1.16513E-05	2.05433	2.05433	2.05216	1.16513E-05	2.05216
12.0788*		0*	0.295602	1.05540E-07	0.295545	0.295545	0.295602	1.05540E-07	0.295602
0.171926*		0*	0.00111658	1.46052E-10	0.00111592	0.00111592	0.00111658	1.46052E-10	0.00111658
0.618581*		0*	0.00112506	4.33838E-12	0.00112426	0.00112426	0.00112506	4.33838E-12	0.00112506
0*		100*	4.27470	96.1532	9.49954E-05	9.49954E-05	4.27470	96.1532	4.27470
1.21406*		0*	0.232503	0.0153422	0.233012	0.233012	0.232503	0.0153422	0.232503
1.14165*		0*	0.0637049	0.000833885	0.0637283	0.0637283	0.0637049	0.000833885	0.0637049
0.0320528*		0*	0.000574143	2.03610E-06	0.000573913	0.000573913	0.000574143	2.03610E-06	0.000574143
0.115390*		0*	0.00142742	5.80126E-06	0.00142665	0.00142665	0.00142742	5.80126E-06	0.00142742
1.00220*		0*	0.667786	8.79667E-05	0.675020	0.675020	0.667786	8.79667E-05	0.667786
0*		0*	0	0	0	0	0	0	0
7.81674*		0*	3.41185	0.000446877	3.43680	3.43680	3.41185	0.000446877	3.41185
4.69983*		0*	1.83147	0.000709014	1.84322	1.84322	1.83147	0.000709014	1.83147
0*		0*	0	0	0	0	0	0	0
5.46802*		0*	1.08355	0.00133684	1.08780	1.08780	1.08355	0.00133684	1.08355
13.2929*		0*	4.12047	0.000126426	4.14143	4.14143	4.12047	0.000126426	4.12047

Mass Flow	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
H2S	0	0	0	0	0	0	0	0	0
Oxygen	0	0	0	0	0	0	0	0	0
Nitrogen	0	0.0100445	0.175290	0.0100445	9.46613E-05	0.185711	0.000376194	0.000376194	6.92016E-06
Carbon Dioxide	0	0	0	0	0	0	0	0	0
Methane	0	0.0322969	0.159122	0.0322969	0.00126743	0.192118	0.000699704	0.000699704	2.13531E-05
Ethane	0	8.33103	6.05032	8.33103	0.896346	14.4231	0.0417645	0.0417645	0.00103435
Propane	0	22.4313	4.63802	22.4313	0.878365	27.0920	0.0227148	0.0227148	0.000126428
i-Butane	0	21.4874	1.65018	21.4874	0.340226	23.1436	0.00605098	0.00605098	1.08252E-05
n-Butane	0	94.2686	4.72344	94.2686	1.04114	99.0131	0.0210156	0.0210156	2.70680E-05
i-Pentane	0	155.062	3.13690	155.062	0.664608	158.209	0.0103912	0.0103912	4.57839E-06
n-Pentane	0	200.779	2.95806	200.779	0.637244	203.741	0.00350607	0.00350607	7.87965E-07
Heptane	0	400.490	0.474718	400.490	0.106318	400.965	0.000304283	0.000304283	3.75088E-09
Octane	0	213.814	0.0759679	213.814	0.0152954	213.890	1.96539E-05	1.96539E-05	3.39760E-11
Nonane	0	3.04412	0.000319012	3.04412	5.77524E-05	3.04444	9.94648E-08	9.94648E-08	4.70180E-14
Decane	0	10.9534	0.000363676	10.9534	5.81836E-05	10.9537	3.17048E-08	3.17048E-08	1.39664E-15
Water	0	0.119486	0.204672	0.119486	4.91630E-06	1700.70	1700.37	1700.37	0.0309543
Benzene	0	21.3472	0.0890283	21.3472	0.0120591	21.4984	0.0621902	0.0621902	4.93906E-06
Toluene	0	20.1817	0.0226538	20.1817	0.00329813	20.2161	0.0117454	0.0117454	2.68450E-07
Ethylbenzene	0	0.567311	0.000185219	0.567311	2.97017E-05	0.567586	8.96565E-05	8.96565E-05	6.55476E-10
o-Xylene	0	2.04242	0.000518504	2.04242	7.38336E-05	2.04331	0.000369644	0.000369644	1.86758E-09
2,2-Dimethylbutane	0	17.5956	0.150988	17.5956	0.0349343	17.7468	0.000202656	0.000202656	2.83188E-08
2,3-Dimethylbutane	0	0	0	0	0	0	0	0	0
2-Methylpentane	0	137.619	0.797362	137.619	0.177865	138.417	0.00137088	0.00137088	1.43862E-07
3-Methylpentane	0	82.7985	0.423418	82.7985	0.0953924	83.2237	0.00183003	0.00183003	2.28251E-07
Methylcyclopentane	0	0	0	0	0	0	0	0	0
Cyclohexane	0	96.5044	0.316725	96.5044	0.0562967	96.8268	0.00564319	0.00564319	4.30364E-07
nC6	0	234.440	0.948165	234.440	0.214331	235.389	0.000788247	0.000788247	4.07000E-08

Process Streams		C Flash Condensate	GB Flash	HC	HC Load	Mixed Liquid	P.W.	Produced Water	PW Load
Properties	Status:	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
Phase: **Total**	From Block:	Tank 2a	Tank 2	Tank 2a	MIX-102	MIX-101	Tank 1	Tank 2	MIX-103
	To Block:	--	Tank 2a	--	--	Tank 2	--	Tank 1	--
Property	**Units**								
Temperature	°F	64.1*	64.1	64.1*	64.1	74.4627	59.9358	64.1	64.1	74.4627
Pressure	psia	14.6959*	14.6959	14.6959*	14.6959	15.6606	18.6959	14.6959	14.6959	0.432350
Mole Fraction Vapor	%		0	100	0	100	0.0707483	0	0	100
Mole Fraction Light Liquid	%		100	0	100	0	18.4005	100	100	0
Mole Fraction Heavy Liquid	%		0	0	0	0	81.5288	0	0	0
Molecular Weight	lb/lbmol		83.7062	47.7345	83.7062	51.8870	29.9813	18.0166	18.0166	18.3134
Mass Density	lb/ft^3		41.6679	0.127366	41.6679	0.145258	37.0979	62.3333	62.3333	0.00138192
Molar Flow	lbmol/h	0	20.8338	0.565554	20.8338	0.0997417	115.788	94.3886	94.3886	0.00175787
Mass Flow	lb/h	0	1743.92	26.9964	1743.92	5.17530	3471.48	1700.56	1700.56	0.0321927
Vapor Volumetric Flow	ft^3/h	0	41.8528	211.959	41.8528	35.6284	93.5762	27.2818	27.2818	23.2956
Liquid Volumetric Flow	gpm	0	5.21802	26.4260	5.21802	4.44199	11.6666	3.40136	3.40136	2.90439
Std Vapor Volumetric Flow	MMSCFD	0	0.189746	0.00515085	0.189746	0.000908409	1.05455	0.859655	0.859655	1.60100E-05
Std Liquid Volumetric Flow	sgpm	0	5.24495	0.105226	5.24495	0.0195247	8.75	3.39983	3.39983	6.85038E-05
Compressibility			0.00525230	0.979875	0.00525230	0.975922	0.00270964	0.000755695	0.000755695	0.999561
Specific Gravity			0.668089	1.64815	0.668089	1.79153		0.999431	0.999431	0.632316
API Gravity			79.6207		79.6207			10.0019	10.0019	
Enthalpy	Btu/h	0	-1.69609E+06	-27754.9	##########	-5036.45	-1.33588E+07	##########	-1.16203E+07	-180.130
Mass Enthalpy	Btu/lb		-972.575	-1028.09	-972.575	-973.171	-3848.17	-6833.22	-6833.22	-5595.36
Mass Cp	Btu/(lb*°F)		0.517633	0.397047	0.517633	0.402488	0.744624	0.982682	0.982682	0.447559
Ideal Gas CpCv Ratio			1.06683	1.11818	1.06683	1.10619	1.19183	1.32611	1.32611	1.31991
Dynamic Viscosity	cP		0.324585	0.00806216	0.324585	0.00790805		1.07436	1.07436	0.00996717
Kinematic Viscosity	cSt		0.486302	3.95162	0.486302	3.39868		1.07599	1.07599	450.264
Thermal Conductivity	Btu/(h*ft*°F)		0.0690535	0.00980846	0.0690535	0.00975191		0.344214	0.344214	0.0117807
Surface Tension	lbf/ft		0.00126148		0.00126148			0.00507620?	0.00507620?	
Net Ideal Gas Heating Value	Btu/ft^3		4261.34	2454.82	4261.34	2698.28	778.818	0.100973	0.100973	37.5794
Net Liquid Heating Value	Btu/lb		19167.1	19355.9	19167.1	19579.7	9261.19	-1057.53	-1057.53	-246.037
Gross Ideal Gas Heating Value	Btu/ft^3		4597.98	2665.53	4597.98	2926.71	881.435	50.4162	50.4162	90.2216
Gross Liquid Heating Value	Btu/lb		20693.5	21031.6	20693.5	21251.0	10560.2	2.25942	2.25942	844.862

lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h	lb/h
0*	0	0*	0*	0*	0*	0*	0*	0*	0
0*	0	0*	0*	0*	0*	0*	0*	0*	0
0.185711*	0	0*	8.25308E-06*	6.06666E-06*	1.32458E-05*	8.14155E-05*	0.000179302*	8.53500E-07*	0.000187555
0*	0	0*	0*	0*	0*	0*	0*	0*	0
0.192118*	0	0*	3.73010E-05*	1.87195E-05*	0.000177350*	0.00109009*	0.000810380*	2.63358E-06*	0.000847681
14.4231*	0	0*	0.0101067*	0.00906776*	0.125424*	0.770922*	0.219572*	0.000127571*	0.229679
27.0920*	0	0*	0.00908702*	0.000110835*	0.122908*	0.755457*	0.197419*	1.55930E-05*	0.206506
23.1436*	0	0*	0.00367326*	9.49008E-06*	0.0476072*	0.292619*	0.0798032*	1.33513E-06*	0.0834765
99.0131*	0	0*	0.0114511*	2.37296E-05*	0.145684*	0.895453*	0.248780*	3.33844E-06*	0.260231
158.209*	0	0*	0.00751292*	4.01372E-06*	0.0929973*	0.571611*	0.163221*	5.64677E-07*	0.170734
203.741*	0	0*	0.00724681*	6.90781E-07*	0.0891683*	0.548075*	0.157440*	9.71839E-08*	0.164687
400.965*	0	0*	0.00122995*	3.28826E-09*	0.0148768*	0.0914407*	0.0267211*	4.62616E-10*	0.0279511
213.890*	0	0*	0.000177167*	2.97856E-11*	0.00214025*	0.0131551*	0.00384903*	4.19044E-12*	0.00402620
3.04444*	0	0*	6.69218E-07*	4.12190E-14*	8.08118E-06*	4.96712E-05*	1.45390E-05*	5.79898E-15*	1.52083E-05
10.9537*	0	0*	6.74298E-07*	1.22439E-15*	8.14152E-06*	5.00421E-05*	1.46494E-05*	1.72255E-16*	1.53237E-05
0*	0	1700.70*	0.00256201*	0.0271365*	6.87929E-07*	4.22837E-06*	0.0556608*	0.00381776*	0.0582228
21.4984*	0	0*	0.000139349*	4.32990E-06*	0.00168740*	0.0103717*	0.00302743*	6.09161E-07*	0.00316677
20.2161*	0	0*	3.81811E-05*	2.35340E-07*	0.000461502*	0.00283663*	0.000829501*	3.31093E-08*	0.000867682
0.567586*	0	0*	3.44109E-07*	5.74632E-10*	4.15611E-06*	2.55456E-05*	7.47591E-06*	8.08432E-11*	7.82001E-06
2.04331*	0	0*	8.55516E-07*	1.63724E-09*	1.03314E-05*	6.35022E-05*	1.85864E-05*	2.30338E-10*	1.94420E-05
17.7468*	0	0*	0.000400233*	2.48261E-08*	0.00488830*	0.0300461*	0.00869524*	3.49271E-09*	0.00909547
0*	0	0*	0*	0*	0*	0*	0*	0*	0
138.417*	0	0*	0.00204487*	1.26118E-07*	0.0248883*	0.152976*	0.0444257*	1.77432E-08*	0.0464706
83.2237*	0	0*	0.00109768*	2.00099E-07*	0.0133481*	0.0820444*	0.0238476*	2.81514E-08*	0.0249452
0*	0	0*	0*	0*	0*	0*	0*	0*	0
96.8268*	0	0*	0.000649418*	3.77285E-07*	0.00787749*	0.0484192*	0.0141089*	5.30791E-08*	0.0147583
235.389*	0	0*	0.00246958*	3.56803E-08*	0.0299910*	0.184340*	0.0536527*	5.01975E-09*	0.0561223

Tank Inlet	W Flash	Water	1	2	3	4	5	6	7
Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved	Solved
--	Tank 1	--	--	--	--	--	--	--	MIX-100
MIX-101	--	MIX-101	MIX-100	MIX-103	MIX-102	MIX-102	MIX-100	MIX-103	--
60*	64.1*	60*	74.4627	74.4627	74.4627	74.4627	74.4627	74.4627	74.4627
18.6959*	14.6959*	18.6959*	3.69764	0.432350	15.6606	15.6606	3.69764	0.432350	3.69764
0.342597		0	100	100	100	100	100	100	100
99.6574		100	0	0	0	0	0	0	0
0		0	0	0	0	0	0	0	0
82.8047		18.0153	48.1267	18.3134	51.8870	51.8870	48.1267	18.3134	48.1267
27.7563		62.3697	0.0311970	0.00138192	0.145258	0.145258	0.0311970	0.00138192	0.0311970
21.3850	0	94.4029	0.00124535	0.00154106	0.0139567	0.0857850	0.0270557	0.000216807	0.0283010
1770.78	0	1700.70	0.0599344	0.0282222	0.724170	4.45113	1.30210	0.00397049	1.36203
63.7976	0	27.2680	1.92116	20.4224	4.98542	30.6430	41.7379	2.87317	43.6591
7.95398	0	3.39964	0.239521	2.54617	0.621559	3.82043	5.20369	0.358213	5.44321
0.194767	0	0.859786	1.13421E-05	1.40354E-05	0.000127112	0.000781297	0.000246413	1.97460E-06	0.000257755
5.35019*	0	3.39981*	0.000221430	6.00548E-05	0.00273206	0.0167927	0.00481066	8.44893E-06	0.00503209
0.0100012		0.000968330	0.995141	0.999561	0.975922	0.975922	0.995141	0.999561	0.995141
		1.00002	1.66169	0.632316	1.79153	1.79153	1.66169	0.632316	1.66169
		9.99777							
###########	0	###########	-70.5070	-157.913	-704.741	-4331.71	-1531.79	-22.2163	-1602.30
-976.737		-6837.93	-1176.40	-5595.36	-973.171	-973.171	-1176.40	-5595.36	-1176.40
0.515635		0.983071	0.401601	0.447559	0.402488	0.402488	0.401601	0.447559	0.401601
1.06803		1.32632	1.11477	1.31991	1.10619	1.10619	1.11477	1.31991	1.11477
		1.13468	0.00819033	0.00996717	0.00790805	0.00790805	0.00819033	0.00996717	0.00819033
		1.13574	16.3896	450.264	3.39868	3.39868	16.3896	450.264	16.3896
		0.342316	0.00972470	0.0117807	0.00975191	0.00975191	0.00972470	0.0117807	0.00972470
		0.00510743							
4216.86		0	2395.09	37.5794	2698.28	2698.28	2395.09	37.5794	2395.09
19173.6		-1059.76	18692.5	-246.037	19579.7	19579.7	18692.5	-246.037	18692.5
4550.39		50.3100	2603.51	90.2216	2926.71	2926.71	2603.51	90.2216	2603.51
20702.3		0	20336.5	844.862	21251.0	21251.0	20336.5	844.862	20336.5

GRI-GLYCalc VERSION 4.0 - SUMMARY OF INPUT VALUES

Case Name: Bitter Lake
File Name: C:\Users\Joseline Laureano\OneDrive - Resolute Compliance, LLC\Env\Projects\Env-IACX-Bitter Lake CS NSR-0005\Simulations\updated.ddf
Date: August 24, 2021

DESCRIPTION:

Description:

Annual Hours of Operation: 8760.0 hours/yr

WET GAS:

Temperature: 112.00 deg. F
Pressure: 834.70 psig
Wet Gas Water Content: Saturated

Component	Conc. (vol %)
Carbon Dioxide	0.2550
Nitrogen	4.4110
Methane	87.2070
Ethane	4.6480
Propane	1.7660
Isobutane	0.3080
n-Butane	0.5760
Isopentane	0.1770
n-Pentane	0.1790
n-Hexane	0.0968
Cyclohexane	0.0020
Other Hexanes	0.1900
Heptanes	0.1190
Methylcyclohexane	0.0439
Ethylbenzene	0.0010
Xylenes	0.0020
C8+ Heavies	0.0249

DRY GAS:

Flow Rate: 30.0 MMSCF/day
Water Content: 7.0 lbs. H2O/MMSCF

LEAN GLYCOL:

Glycol Type: TEG
Water Content: 1.5 wt% H2O
Recirculation Ratio: 3.0 gal/lb H2O

PUMP:

Glycol Pump Type: Electric/Pneumatic

REGENERATOR OVERHEADS CONTROL DEVICE:

Control Device: Condenser
Temperature: 80.0 deg. F
Pressure: 16.7 psia

Control Device: Combustion Device
Destruction Efficiency: 95.0 %
Excess Oxygen: 0.0 %
Ambient Air Temperature: 70.0 deg. F

GRI-GLYCalc VERSION 4.0 - AGGREGATE CALCULATIONS REPORT

Case Name: Bitter Lake
File Name: C:\Users\Joseline Laureano\OneDrive - Resolute Compliance, LLC\Env\Projects\Env-IACX-Bitter Lake CS NSR-0005\Simulations\updated.ddf
Date: August 24, 2021

DESCRIPTION:

Description:

Annual Hours of Operation: 8760.0 hours/yr

EMISSIONS REPORTS:

CONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.3769	9.046	1.6508
Ethane	0.1147	2.752	0.5023
Propane	0.1023	2.455	0.4481
Isobutane	0.0310	0.744	0.1358
n-Butane	0.0739	1.774	0.3237
Isopentane	0.0260	0.625	0.1141
n-Pentane	0.0305	0.732	0.1337
n-Hexane	0.0251	0.601	0.1097
Cyclohexane	0.0019	0.047	0.0085
Other Hexanes	0.0429	1.030	0.1880
Heptanes	0.0370	0.887	0.1619
Methylcyclohexane	0.0362	0.868	0.1584
Ethylbenzene	0.0042	0.100	0.0182
Xylenes	0.0080	0.193	0.0352
C8+ Heavies	0.0004	0.010	0.0018
Total Emissions	0.9110	21.864	3.9902
Total Hydrocarbon Emissions	0.9110	21.864	3.9902
Total VOC Emissions	0.4194	10.067	1.8372
Total HAP Emissions	0.0372	0.894	0.1631
Total BTEX Emissions	0.0122	0.293	0.0534

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	7.5441	181.058	33.0431
Ethane	2.3013	55.230	10.0795
Propane	2.0802	49.926	9.1114
Isobutane	0.6426	15.423	2.8146
n-Butane	1.5536	37.286	6.8047
Isopentane	0.5831	13.995	2.5540
n-Pentane	0.7508	18.019	3.2885
n-Hexane	0.7671	18.411	3.3600
Cyclohexane	0.0672	1.614	0.2945
Other Hexanes	1.1666	27.997	5.1095
Heptanes	1.9334	46.401	8.4682
Methylcyclohexane	1.8514	44.434	8.1093
Ethylbenzene	0.6009	14.422	2.6320
Xylenes	1.6285	39.084	7.1328
C8+ Heavies	2.9352	70.445	12.8563
Total Emissions	26.4061	633.745	115.6585
Total Hydrocarbon Emissions	26.4061	633.745	115.6585
Total VOC Emissions	16.5607	397.457	72.5359
Total HAP Emissions	2.9965	71.917	13.1248
Total BTEX Emissions	2.2294	53.505	9.7648

EQUIPMENT REPORTS:

CONDENSER AND COMBUSTION DEVICE

Condenser Outlet Temperature: 80.00 deg. F
Condenser Pressure: 16.70 psia
Condenser Duty: 7.71e-002 MM BTU/hr
Hydrocarbon Recovery: 0.66 bbls/day
Produced Water: 7.47 bbls/day
Ambient Temperature: 70.00 deg. F
Excess Oxygen: 0.00 %
Combustion Efficiency: 95.00 %
Supplemental Fuel Requirement: 7.71e-002 MM BTU/hr

Component	Emitted	Destroyed
Methane	5.00%	95.00%
Ethane	4.98%	95.02%
Propane	4.92%	95.08%

Isobutane	4.83%	95.17%
n-Butane	4.76%	95.24%
Isopentane	4.47%	95.53%
n-Pentane	4.06%	95.94%
n-Hexane	3.27%	96.73%
Cyclohexane	2.88%	97.12%
Other Hexanes	3.68%	96.32%
Heptanes	1.91%	98.09%
Methylcyclohexane	1.95%	98.05%
Ethylbenzene	0.69%	99.31%
Xylenes	0.49%	99.51%
C8+ Heavies	0.01%	99.99%

ABSORBER

Calculated Absorber Stages: 1.26
Specified Dry Gas Dew Point: 7.00 lbs. H2O/MMSCF
Temperature: 112.0 deg. F
Pressure: 834.7 psig
Dry Gas Flow Rate: 30.0000 MMSCF/day
Glycol Losses with Dry Gas: 0.5614 lb/hr
Wet Gas Water Content: Saturated
Calculated Wet Gas Water Content: 94.32 lbs. H2O/MMSCF
Specified Lean Glycol Recirc. Ratio: 3.00 gal/lb H2O

Component	Remaining in Dry Gas	Absorbed in Glycol
Water	7.41%	92.59%
Carbon Dioxide	99.80%	0.20%
Nitrogen	99.98%	0.02%
Methane	99.98%	0.02%
Ethane	99.95%	0.05%
Propane	99.92%	0.08%
Isobutane	99.89%	0.11%
n-Butane	99.86%	0.14%
Isopentane	99.86%	0.14%
n-Pentane	99.82%	0.18%
n-Hexane	99.72%	0.28%
Cyclohexane	98.79%	1.21%
Other Hexanes	99.78%	0.22%
Heptanes	99.51%	0.49%
Methylcyclohexane	98.70%	1.30%
Ethylbenzene	82.82%	17.18%
Xylenes	76.72%	23.28%
C8+ Heavies	97.90%	2.10%

REGENERATOR

No Stripping Gas used in regenerator.

Component	Remaining in Glycol	Distilled Overhead
Water	29.64%	70.36%
Carbon Dioxide	0.00%	100.00%
Nitrogen	0.00%	100.00%
Methane	0.00%	100.00%
Ethane	0.00%	100.00%
Propane	0.00%	100.00%
Isobutane	0.00%	100.00%
n-Butane	0.00%	100.00%
Isopentane	0.50%	99.50%
n-Pentane	0.50%	99.50%
n-Hexane	0.50%	99.50%
Cyclohexane	3.20%	96.80%
Other Hexanes	1.00%	99.00%
Heptanes	0.50%	99.50%
Methylcyclohexane	4.00%	96.00%
Ethylbenzene	10.41%	89.59%
Xylenes	12.93%	87.07%
C8+ Heavies	12.02%	87.98%

STREAM REPORTS:

WET GAS STREAM

Temperature: 112.00 deg. F
Pressure: 849.40 psia
Flow Rate: 1.25e+006 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	1.99e-001	1.18e+002
Carbon Dioxide	2.54e-001	3.70e+002
Nitrogen	4.40e+000	4.07e+003
Methane	8.70e+001	4.61e+004

Ethane	4.64e+000	4.61e+003
Propane	1.76e+000	2.57e+003
Isobutane	3.07e-001	5.90e+002
n-Butane	5.75e-001	1.10e+003
Isopentane	1.77e-001	4.21e+002
n-Pentane	1.79e-001	4.26e+002
n-Hexane	9.66e-002	2.75e+002
Cyclohexane	2.00e-003	5.55e+000
Other Hexanes	1.90e-001	5.40e+002
Heptanes	1.19e-001	3.93e+002
Methylcyclohexane	4.38e-002	1.42e+002
Ethylbenzene	9.98e-004	3.50e+000
Xylenes	2.00e-003	7.00e+000
C8+ Heavies	2.48e-002	1.40e+002
Total Components	100.00	6.19e+004

DRY GAS STREAM

Temperature: 112.00 deg. F
Pressure: 849.40 psia
Flow Rate: 1.25e+006 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	1.47e-002	8.75e+000
Carbon Dioxide	2.54e-001	3.69e+002
Nitrogen	4.41e+000	4.07e+003
Methane	8.72e+001	4.61e+004
Ethane	4.65e+000	4.60e+003
Propane	1.76e+000	2.56e+003
Isobutane	3.08e-001	5.89e+002
n-Butane	5.75e-001	1.10e+003
Isopentane	1.77e-001	4.20e+002
n-Pentane	1.79e-001	4.25e+002
n-Hexane	9.65e-002	2.74e+002
Cyclohexane	1.98e-003	5.48e+000
Other Hexanes	1.90e-001	5.38e+002
Heptanes	1.18e-001	3.91e+002
Methylcyclohexane	4.33e-002	1.40e+002
Ethylbenzene	8.28e-004	2.90e+000
Xylenes	1.53e-003	5.37e+000
C8+ Heavies	2.44e-002	1.37e+002
Total Components	100.00	6.17e+004

LEAN GLYCOL STREAM

Temperature: 112.00 deg. F
Flow Rate: 5.46e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)
TEG	9.85e+001	3.03e+003
Water	1.50e+000	4.61e+001
Carbon Dioxide	2.43e-012	7.47e-011
Nitrogen	2.36e-012	7.26e-011
Methane	8.25e-018	2.53e-016
Ethane	3.53e-008	1.09e-006
Propane	2.75e-009	8.47e-008
Isobutane	6.27e-010	1.93e-008
n-Butane	1.25e-009	3.85e-008
Isopentane	9.53e-005	2.93e-003
n-Pentane	1.23e-004	3.77e-003
n-Hexane	1.25e-004	3.85e-003
Cyclohexane	7.23e-005	2.22e-003
Other Hexanes	3.83e-004	1.18e-002
Heptanes	3.16e-004	9.71e-003
Methylcyclohexane	2.51e-003	7.71e-002
Ethylbenzene	2.27e-003	6.98e-002
Xylenes	7.87e-003	2.42e-001
C8+ Heavies	1.31e-002	4.01e-001
Total Components	100.00	3.07e+003

RICH GLYCOL STREAM

Temperature: 112.00 deg. F
Pressure: 849.40 psia
Flow Rate: 5.73e+000 gpm
NOTE: Stream has more than one phase.

Component	Conc. (wt%)	Loading (lb/hr)
TEG	9.43e+001	3.02e+003
Water	4.85e+000	1.56e+002
Carbon Dioxide	2.33e-002	7.47e-001
Nitrogen	2.26e-002	7.26e-001
Methane	2.35e-001	7.54e+000

Ethane	7.17e-002	2.30e+000
Propane	6.48e-002	2.08e+000
Isobutane	2.00e-002	6.43e-001
n-Butane	4.84e-002	1.55e+000
Isopentane	1.83e-002	5.86e-001
n-Pentane	2.35e-002	7.55e-001
n-Hexane	2.40e-002	7.71e-001
Cyclohexane	2.16e-003	6.95e-002
Other Hexanes	3.67e-002	1.18e+000
Heptanes	6.06e-002	1.94e+000
Methylcyclohexane	6.01e-002	1.93e+000
Ethylbenzene	2.09e-002	6.71e-001
Xylenes	5.83e-002	1.87e+000
C8+ Heavies	1.04e-001	3.34e+000
Total Components	100.00	3.21e+003

REGENERATOR OVERHEADS STREAM

Temperature: 212.00 deg. F
Pressure: 14.70 psia
Flow Rate: 2.61e+003 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	8.85e+001	1.09e+002
Carbon Dioxide	2.47e-001	7.47e-001
Nitrogen	3.77e-001	7.26e-001
Methane	6.85e+000	7.54e+000
Ethane	1.11e+000	2.30e+000
Propane	6.87e-001	2.08e+000
Isobutane	1.61e-001	6.43e-001
n-Butane	3.89e-001	1.55e+000
Isopentane	1.18e-001	5.83e-001
n-Pentane	1.52e-001	7.51e-001
n-Hexane	1.30e-001	7.67e-001
Cyclohexane	1.16e-002	6.72e-002
Other Hexanes	1.97e-001	1.17e+000
Heptanes	2.81e-001	1.93e+000
Methylcyclohexane	2.75e-001	1.85e+000
Ethylbenzene	8.24e-002	6.01e-001
Xylenes	2.23e-001	1.63e+000
C8+ Heavies	2.51e-001	2.94e+000
Total Components	100.00	1.37e+002

CONDENSER PRODUCED WATER STREAM

Temperature: 80.00 deg. F
Flow Rate: 2.18e-001 gpm

Component	Conc. (wt%)	Loading (lb/hr)	(ppm)
Water	1.00e+002	1.09e+002	999870.
Carbon Dioxide	3.66e-003	3.99e-003	37.
Nitrogen	7.08e-005	7.72e-005	1.
Methane	1.56e-003	1.71e-003	16.
Ethane	6.18e-004	6.74e-004	6.
Propane	3.84e-004	4.18e-004	4.
Isobutane	6.67e-005	7.27e-005	1.
n-Butane	2.21e-004	2.41e-004	2.
Isopentane	5.85e-005	6.38e-005	1.
n-Pentane	7.60e-005	8.29e-005	1.
n-Hexane	5.64e-005	6.15e-005	1.
Cyclohexane	2.84e-005	3.10e-005	0.
Other Hexanes	7.52e-005	8.19e-005	1.
Heptanes	4.88e-005	5.32e-005	0.
Methylcyclohexane	2.63e-004	2.86e-004	3.
Ethylbenzene	1.53e-003	1.67e-003	15.
Xylenes	4.33e-003	4.72e-003	43.
C8+ Heavies	2.09e-007	2.28e-007	0.
Total Components	100.00	1.09e+002	1000000.

CONDENSER RECOVERED OIL STREAM

Temperature: 80.00 deg. F
Flow Rate: 1.92e-002 gpm

Component	Conc. (wt%)	Loading (lb/hr)
Water	1.93e-002	1.58e-003
Carbon Dioxide	1.14e-002	9.30e-004
Nitrogen	2.28e-003	1.86e-004
Methane	5.27e-002	4.31e-003
Ethane	8.80e-002	7.19e-003
Propane	4.11e-001	3.36e-002
Isobutane	2.73e-001	2.23e-002
n-Butane	9.20e-001	7.52e-002
Isopentane	7.59e-001	6.21e-002

n-Pentane	1.72e+000	1.40e-001
n-Hexane	3.25e+000	2.66e-001
Cyclohexane	3.48e-001	2.84e-002
Other Hexanes	3.77e+000	3.08e-001
Heptanes	1.46e+001	1.19e+000
Methylcyclohexane	1.38e+001	1.13e+000
Ethylbenzene	6.31e+000	5.16e-001
Xylenes	1.79e+001	1.46e+000
C8+ Heavies	3.58e+001	2.93e+000
Total Components	100.00	8.18e+000

CONDENSER VENT STREAM

Temperature: 80.00 deg. F
Pressure: 16.70 psia
Flow Rate: 2.82e+002 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	3.09e+000	4.13e-001
Carbon Dioxide	2.27e+000	7.42e-001
Nitrogen	3.48e+000	7.26e-001
Methane	6.32e+001	7.54e+000
Ethane	1.03e+001	2.29e+000
Propane	6.24e+000	2.05e+000
Isobutane	1.44e+000	6.20e-001
n-Butane	3.42e+000	1.48e+000
Isopentane	9.71e-001	5.21e-001
n-Pentane	1.14e+000	6.10e-001
n-Hexane	7.82e-001	5.01e-001
Cyclohexane	6.20e-002	3.88e-002
Other Hexanes	1.34e+000	8.58e-001
Heptanes	9.92e-001	7.39e-001
Methylcyclohexane	9.91e-001	7.24e-001
Ethylbenzene	1.05e-001	8.30e-002
Xylenes	2.04e-001	1.61e-001
C8+ Heavies	6.54e-003	8.28e-003
Total Components	100.00	2.01e+001

COMBUSTION DEVICE OFF GAS STREAM

Temperature: 1000.00 deg. F

Pressure: 14.70 psia
Flow Rate: 1.29e+001 scfh

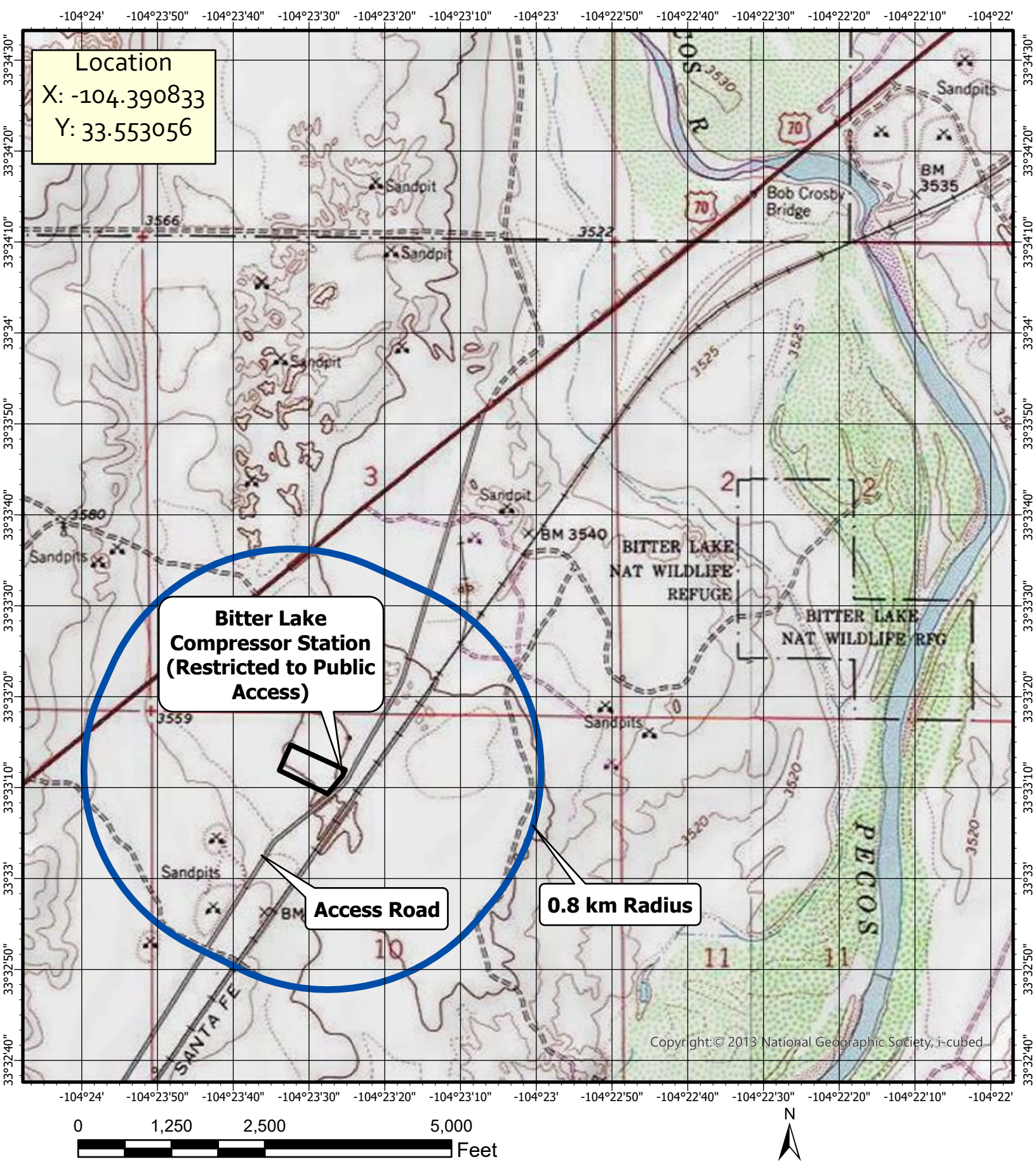
Component	Conc. (vol%)	Loading (lb/hr)
Methane	6.93e+001	3.77e-001
Ethane	1.13e+001	1.15e-001
Propane	6.85e+000	1.02e-001
Isobutane	1.57e+000	3.10e-002
n-Butane	3.75e+000	7.39e-002
Isopentane	1.07e+000	2.60e-002
n-Pentane	1.25e+000	3.05e-002
n-Hexane	8.58e-001	2.51e-002
Cyclohexane	6.80e-002	1.94e-003
Other Hexanes	1.47e+000	4.29e-002
Heptanes	1.09e+000	3.70e-002
Methylcyclohexane	1.09e+000	3.62e-002
Ethylbenzene	1.15e-001	4.15e-003
Xylenes	2.23e-001	8.04e-003
C8+ Heavies	7.17e-003	4.14e-004
Total Components	100.00	9.11e-001

Section 8

Map(s)

A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

The UTM or Longitudinal coordinate system on both axes	An indicator showing which direction is north
A minimum radius around the plant of 0.8km (0.5 miles)	Access and haul roads
Topographic features of the area	Facility property boundaries
The name of the map	The area which will be restricted to public access
A graphical scale	



RESOLUTE COMPLIANCE, LLC
Purposeful Solutions. Unwavering Service.

IACX Roswell LLC
Bitter Lake Compressor Station
Chavez County, NM

7.5 Minute Quadrangle Map

Project No.	**Env-IACX-Bitter Lake CS**
Report No.	**NSR - 0005**
Date:	**July 2021**

Figure 3

Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)
(This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

X I have read the AQB "Guidelines for Public Notification for Air Quality Permit Applications"
This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant's Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

New Permit and **Significant Permit Revision** public notices must include all items in this list.

Technical Revision public notices require only items 1, 5, 9, and 10.

Per the Guidelines for Public Notification document mentioned above, include:

1. **X** A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
2. **X** A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g: post office, library, grocery, etc.)
3. **X** A copy of the property tax record (20.2.72.203.B NMAC).
4. **X** A sample of the letters sent to the owners of record.
5. **X** A sample of the letters sent to counties, municipalities, and Indian tribes.
6. **X** A sample of the public notice posted and a verification of the local postings.
7. **X** A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
8. **X** A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
9. **X** A copy of the classified or legal ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
10. **X** A copy of the display ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
11. **X** A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record.

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Roswell, NM 88202

OFFICIAL USE

Certified Mail Fee	$3.75
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

7020 3160 0000 4931 8628

0189 06

Postmark Here

09/03/2021

Sent To: Hondo Resources Inc.
Street and Apt. No., or PO Box No.: PO. Box 2623
City, State, ZIP+4®: Roswell, NM, 88202

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Roswell, NM 88201

OFFICIAL USE

Certified Mail Fee	$3.75
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

7020 3160 0000 4931 8611

0189 06

Postmark Here

09/03/2021

Sent To: City Clerk's Office
Street and Apt. No., or PO Box No.: 425 N. Richardson
City, State, ZIP+4®: Roswell, NM, 88201

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Roswell, NM 88201

OFFICIAL USE

Certified Mail Fee	$3.75
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

7020 3160 0000 4931 8635

0189 06

Postmark Here

09/03/2021

Sent To: U.S. Bureau of Land Management
Street and Apt. No., or PO Box No.: 2909 W. 2nd St.
City, State, ZIP+4®: Roswell, NM, 88201

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Roswell, NM 88201

OFFICIAL USE

Certified Mail Fee	$3.75
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

7020 3160 0000 4931 8642

0189 06

Postmark Here

09/03/2021

Sent To: Gary L. Key
Street and Apt. No., or PO Box No.: 1012 E. 2nd St.
City, State, ZIP+4®: Roswell, NM, 88201

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Roswell, NM 88203

OFFICIAL USE

Certified Mail Fee	$3.75
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

7020 3160 0000 4931 8604

0189 06

Postmark Here

09/03/2021

Sent To: Chaves County Manager
Street and Apt. No., or PO Box No.: 1 St Mary's Pl
City, State, ZIP+4®: Roswell, NM, 88203

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Hondo Resources Inc.
P.O. Box 2623
Roswell, NM 88202

9590 9402 5644 9308 1072 21

2. Article Number *(Transfer from service label)*

7020 3160 0000 4931 8628

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Susan M. Fields ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Susan Mickelt C. Date of Delivery 2015

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

City Clerks Office
425 N. Richardson
Roswell, NM 88201

9590 9402 5644 9308 1072 14

2. Article Number *(Transfer from service label)*

7020 3160 0000 4931 8611

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 9-7-15

D. Is delivery address different from item 1? ☒ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

DALLAS TX 750

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Gary L. Key
1012 E. 2nd St
Roswell, NM 88201

9590 9402 5644 9308 1072 38

2. Article Number *(Transfer from service label)*

7020 3160 0000 4931 8642

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Chaves County Manager
1 St Mary's Pl
Roswell, NM 88203

9590 9402 5644 9308 1072 07

2. Article Number *(Transfer from service label)*

7020 3160 0000 4931 8604

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

U.S. Bureau of Land Management
Roswell Field Office
2809 W. 2nd St
Roswell, NM 88201

9590 9402 5644 9308 1072 45

2. Article Number *(Transfer from service label)*

7020 3160 0000 4931 8635

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Jerrilynn Smith ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

List of Places Where Public Notice was Posted

Roswell Fire Station #4

- Located at 10 E Challenger St, Roswell, NM 88203

Roswell Public Library

- Located at 301 N Pennsylvania Ave, Roswell, NM 882010

Roswell Public Health Division

- Located at 200 E Chisum St, Roswell, NM 88203

Bitter Lake Compressor Station

- Located at 33 deg, 33 min, 11.001 sec and longitude -104 deg, 23 min, 26.9988 sec

October 11, 2021

CERTIFIED MAIL 7020 3160 0000 4931 8642
RETURN RECEIPT REQUESTED *(certified mail is required,* ***return receipt is optional****)*

Dear **Gary L. Key**

IACX Roswell LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the **modification** of its **natural gas compressor station** facility. The expected date of application submittal to the Air Quality Bureau is **August 27, 2021.**

The exact location for the proposed facility known as **Bitter Lake Compressor Station**, is at latitude 33 deg**,** 33 min, 11.001 sec and longitude -104 deg**,** 23 min, 26.9988 sec. The approximate location of this facility is **1.6** miles **south of Salt Creek Wilderness** in **Chaves** County.

The proposed **modification** consists of transitioning the GCP O&G permit to an NSR permit due to the proximity to the Salt Creek Wilderness.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and may change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM 10	1.13 pph	4.64 tpy
PM 2.5	1.00 pph	4.41 tpy
Sulfur Dioxide (SO2)	0.34 pph	1.53 tpy
Nitrogen Oxides (NOx)	18.33 pph	80.23 tpy
Carbon Monoxide (CO)	17.63 pph	77.27 tpy
Volatile Organic Compounds (VOC)	21.48 pph	52.33 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	1.94 pph	8.58 tpy
Toxic Air Pollutant (TAP)	pph	tpy
Green House Gas Emissions as Total CO2e	n/a	tpy

The standard and maximum operating schedules of the facility will be from 12:00 a.m. to 12:00 p.m. _7__days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: **Tony Hines; IACX Roswell LLC; 5001 LBJ Freeway, Suite 300, Dallas, TX 75244**

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air

Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-476-5557.

Sincerely,
IACX Roswell LLC
5001 LBJ Freeway, Suite 300, Dallas, TX 75244

Notice of Non-Discrimination
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kathryn Becker, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.

October 11, 2021

CERTIFIED MAIL 7020 3160 0000 4931 8628
RETURN RECEIPT REQUESTED *(certified mail is required,* ***return receipt is optional****)*

Dear **Hondo Resources Inc.**

IACX Roswell LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the **modification** of its **natural gas compressor station** facility. The expected date of application submittal to the Air Quality Bureau is **August 27, 2021.**

The exact location for the proposed facility known as **Bitter Lake Compressor Station**, is at latitude 33 deg**,** 33 min, 11.001 sec and longitude -104 deg**,** 23 min, 26.9988 sec. The approximate location of this facility is **1.6** miles **south of Salt Creek Wilderness** in **Chaves** County.

The proposed **modification** consists of transitioning the GCP O&G permit to an NSR permit due to the proximity to the Salt Creek Wilderness.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and may change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM 10	1.13 pph	4.64 tpy
PM 2.5	1.00 pph	4.41 tpy
Sulfur Dioxide (SO2)	0.34 pph	1.53 tpy
Nitrogen Oxides (NOx)	18.33 pph	80.23 tpy
Carbon Monoxide (CO)	17.63 pph	77.27 tpy
Volatile Organic Compounds (VOC)	21.48 pph	52.33 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	1.94 pph	8.58 tpy
Toxic Air Pollutant (TAP)	pph	tpy
Green House Gas Emissions as Total CO2e	n/a	tpy

The standard and maximum operating schedules of the facility will be from 12:00 a.m. to 12:00 p.m. _7__days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: **Tony Hines; IACX Roswell LLC; 5001 LBJ Freeway, Suite 300, Dallas, TX 75244**

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air

Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

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5001 LBJ Freeway, Suite 300, Dallas, TX 75244

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October 11, 2021

CERTIFIED MAIL 7020 3160 0000 4931 8635
RETURN RECEIPT REQUESTED *(certified mail is required, **return receipt is optional**)*

Dear **U.S. Bureau of Land Management**

IACX Roswell LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the **modification** of its **natural gas compressor station** facility. The expected date of application submittal to the Air Quality Bureau is **August 27, 2021.**

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Pollutant:	Pounds per hour	Tons per year
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Sulfur Dioxide (SO2)	0.34 pph	1.53 tpy
Nitrogen Oxides (NOx)	18.33 pph	80.23 tpy
Carbon Monoxide (CO)	17.63 pph	77.27 tpy
Volatile Organic Compounds (VOC)	21.48 pph	52.33 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	1.94 pph	8.58 tpy
Toxic Air Pollutant (TAP)	pph	tpy
Green House Gas Emissions as Total CO2e	n/a	tpy

The standard and maximum operating schedules of the facility will be from 12:00 a.m. to 12:00 p.m. _7__days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: **Tony Hines; IACX Roswell LLC; 5001 LBJ Freeway, Suite 300, Dallas, TX 75244**

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air

Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

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October 11, 2021

CERTIFIED MAIL 7020 3160 0000 4931 8604
RETURN RECEIPT REQUESTED *(certified mail is required, **return receipt is optional**)*

Dear **Chaves County Manager**
IACX Roswell LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the **modification** of its **natural gas compressor station** facility. The expected date of application submittal to the Air Quality Bureau is **August 27, 2021.**

The exact location for the proposed facility known as **Bitter Lake Compressor Station**, is at latitude 33 deg**,** 33 min, 11.001 sec and longitude -104 deg**,** 23 min, 26.9988 sec. The approximate location of this facility is **1.6** miles **south of Salt Creek Wilderness** in **Chaves** County.

The proposed **modification** consists of transitioning the GCP O&G permit to an NSR permit due to the proximity to the Salt Creek Wilderness.

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Toxic Air Pollutant (TAP)	pph	tpy
Green House Gas Emissions as Total CO2e	n/a	tpy

The standard and maximum operating schedules of the facility will be from 12:00 a.m. to 12:00 p.m. _7__days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: **Tony Hines; IACX Roswell LLC; 5001 LBJ Freeway, Suite 300, Dallas, TX 75244**

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air

Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, or send a copy of this notice along with your comments, since the Department may have not yet received the permit application. Please include a legible return mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

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The proposed **modification** consists of transitioning the GCP O&G permit to an NSR permit due to the proximity to the Salt Creek Wilderness.

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Pollutant:	Pounds per hour	Tons per year
PM 10	1.13 pph	4.64 tpy
PM 2.5	1.00 pph	4.41 tpy
Sulfur Dioxide (SO2)	0.34 pph	1.53 tpy
Nitrogen Oxides (NOx)	18.33 pph	80.23 tpy
Carbon Monoxide (CO)	17.63 pph	77.27 tpy
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Green House Gas Emissions as Total CO2e	n/a	tpy

The standard and maximum operating schedules of the facility will be from 12:00 a.m. to 12:00 p.m. 7_days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: **Tony Hines; IACX Roswell LLC; 5001 LBJ Freeway, Suite 300, Dallas, TX 75244**

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With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Attención
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This Notice is Also Posted at the Following Locations:
Roswell Fire Station #4 located 10 E Challenger St, Roswell, NM 88203, Roswell Public Library located at 301 N Pennsylvania Ave, Roswell, NM 882010, Roswell Public Health Division located at 200 E Chisum St, Roswell, NM 88203, and Bitter Lake Compressor Station located at 33 deg**,** 33 min, 11.001 sec and longitude -104 deg**,** 23 min, 26.9988 sec.

General Posting of Notices – Certification

I, Mike Space, the undersigned, certify that on 8/31/21, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the **ROSWELL** of **CHAVEZ** County, State of New Mexico on the following dates:

1. Bitter Lake Compressor Station at 33 deg, 33 min, 11.001 sec and longitude -104 deg, 23 min, 26.9988 sec {8/27/2021}
2. Roswell Fire Station #4 located 10 E Challenger St, Roswell, NM 88203{8/31/21}
3. Roswell Public Library located at 301 N Pennsylvania Ave, Roswell, NM 882010{8/31/21}
4. Roswell Public Health Division located at 200 E Chisum St, Roswell, NM 88203{8/31/21}

Signed this 1st day of October, 2021,

Signature

10/1/2021
Date

Mike Space
Printed Name

Consultant
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

Notices That Were Sent

- Chavez County Manager
- Gary L. Key
- Hondo Resources Inc.
- U.S. Bureau of Land Management

Account: R042873 * Tax Rate does not include the Pecos Valley Artesian Conservancy District

Location

Parcel Number 4-144-052-068-322-000000
Tax Area 11N_8_10 - 11N-FC-CSW
Situs Address
Legal Summary S: 1 T: 9S R: 25E ALL LESS LOT 4 S: 2 T: 9S R: 25E SW4SE4 S: 10 T: 9S R: 25E SE4NW4-NE4SW4-S2NE4-NW4SE4 LESS HWY & RR R/W'S (ADDED TO ACCOUNT) S: 11 T: 9S R: 25E NE4-NE4SE4-S2SE4 S: 12 T: 9S R: 25E ALL S: 13 T: 9S R: 25E ALL S: 14 T: 9S R: 25E ALL LESS S2SW4SE4-W2NE4NW4-NW4NW4 S: 15 T: 9S R: 25E ALL LESS NW4NW4 S: 20 T: 9S R: 25E E2 LESS HWY & RR R/W S: 21 T: 9S R: 25E N2-W2SW4-E2SE4 S: 22 T: 9S R: 25E ALL LESS N2NE4-N2SW4SE4 S: 23 T: 9S R: 25E ALL S: 24 T: 9S R: 25E ALL S: 25 T: 9S R: 25E ALL S: 26 T: 9S R: 25E ALL S: 27 T: 9S R: 25E ALL S: 28 T: 9S R: 25E E2-SE4SW4 S: 32 T: 9S R: 25E NE4NE4-S2NE4-SE4-E2SW4 S: 33 T: 9S R: 25E ALL S: 34 T: 9S R: 25E N2-SE4-SE4SW4 S: 35 T: 9S R: 25E ALL

Owner Information

Owner Name UNITED STATES OF AMERICA
In Care Of Name BUREAU OF LAND MANAGEMENT-ROSWELL FIELD OFFICE
Owner Address 2809 W 2ND ST
ROSWELL, NM 88201-2019
UNITED STATES OF AMERICA

Assessment History

Actual Value (2021)	$33,208
Primary Taxable	$11,070
Exempt	($11,070)
Adjusted Taxable Total	$0

Tax Area: 11N_8_10 **Tax Rate**: 0.023359

Type	Actual	Assessed	Acres	SQFT
Exempt Land	$32,906	$10,969	10445.850	0.000

Tax Area: 11N_8_15 **Tax Rate**: 0.022359

Type	Actual	Assessed	Acres
Exempt Land	$302	$101	95.839

Images

GIS

Tax Year	Taxes
*2021	$0.00
2020	$0.00

* Estimated

Account: R012444 * Tax Rate does not include the Pecos Valley Artesian Conservancy District

Location

Parcel Number 4-143-049-114-198-000000
Tax Area 11N_8_10 - 11N-FC-CSW
Situs Address
Legal Summary S: 3 T: 9S R: 25E NE4 - SE4NW4 - SW4 N & W OF HWY 70 - N2NW4 - SW4NW4 S: 4 T: 9S R: 25E E2E2 N & W OF HWY 70 - W2 S: 5 T: 9S R: 25E SE4NE4 - E2SE4 S: 6 T: 9S R: 25E NW4 (LOTS 3 4 5) S: 8 T: 9S R: 25E N2N2 - SE4NE4 - S2 THAT PT N & W OF HWY 70 S: 9 T: 9S R: 25E NW4 - NW4SW4 N & W OF HWY 70 - E2NE4 N & W OF HWY 70 S: 17 T: 9S R: 25E NW4 N & W OF HWY 70 S: 18 T: 9S R: 25E E2 N & W OF HWY 70 BK 731 PG 1793 WD

Owner Information

Owner Name KEY,GARY L ; KEY,JERI L
Owner Address 1012 E SECOND ST
ROSWELL, NM 88201
UNITED STATES OF AMERICA

Assessment History

Actual Value (2021) $27,448
Primary Taxable $9,150
Tax Area: 11N_8_10 **Tax Rate:** 0.023359

Type	Actual	Assessed	Acres	SQFT	Units
Agriculture Land	$6,041	$2,014	1917.910	0.000	
Non-Residential Improvement	$21,407	$7,136			69960.000

Tax Year	Taxes
*2021	$213.74
2020	$213.74

* Estimated

Images

GIS

Account: R045425 * Tax Rate does not include the Pecos Valley Artesian Conservancy District

Location

Parcel Number 4-143-050-031-338-000000
Tax Area 11N_8_10 - 11N-FC-CSW
Situs Address
Legal Summary S: 9 T: 9S R: 25E SE1/4SE1/4 S & E OF OLD CLOVIS HWY & N & W OF AT & SF RR R/W S: 10 T: 9S R: 25E W1/2W1/2 S & E OF OLD CLOVIS HWY & N & W OF AT & SF RR R/W BK: 425 PG: 488 WD

Owner Information

Owner Name HONDO RESOURCES INC
Owner Address PO BOX 2623
ROSWELL, NM 88202-2623
UNITED STATES OF AMERICA

Assessment History

Actual Value (2021) $506
Primary Taxable $169
Tax Area: 11N_8_10 **Tax Rate**: 0.023359

Type	Actual	Assessed	Acres	SQFT
Non-Residential Land	$506	$169	20.227	0.000

Tax Year	Taxes
*2021	$3.94
2020	$3.94

* Estimated

Images

GIS

Account: R045426 * Tax Rate does not include the Pecos Valley Artesian Conservancy District

Location

Parcel Number 4-143-050-061-098-000000
Tax Area 11N_8_10 - 11N-FC-CSW
Situs Address
Legal Summary S: 3 T: 9S R: 25E S1/2N1/2 & S1/2 S & E OF HWY 70 & N & W 0F OLD CLOVIS HWY. S: 9 T: 9S R: 25E E2E2 S & E OF HWY 70 & N & W OF OLD CLOVIS HWY S: 10 T: 9S R: 25E W1/2 N & W OF OLD CLOVIS HWY LESS 5.10 AC IN NE4NW4 BK: 425 PG: 488 WD

Owner Information

Owner Name HONDO RESOURCES INC
Owner Address PO BOX 2623
ROSWELL, NM 88202-2623
UNITED STATES OF AMERICA

Assessment History

Actual Value (2021) $10,593
Primary Taxable $3,531
Tax Area: 11N_8_10 **Tax Rate**: 0.023359

Type	Actual	Assessed	Acres	SQFT
Non-Residential Land	$10,593	$3,531	321.582	0.000

Tax Year	Taxes
*2021	$82.48
2020	$82.48

* Estimated

Images

GIS

Public Service Announcement

IACX Roswell LLC announces its application to the New Mexico Environment Department for an air quality permit for the **modification** of its **natural gas compressor station** facility. The expected date of application submittal to the Air Quality Bureau is **August 27, 2021.**

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The owner and/or operator of the Facility is: **Tony Hines; IACX Roswell LLC; 5001 LBJ Freeway, Suite 300, Dallas, TX 75244**

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This Notice is Also Posted at the Following Locations:
Farmer County Market located at 600 E 2nd St, Roswell, NM 88201, Roswell Public Library located at 301 N Pennsylvania Ave, Roswell, NM 882010, Roswell Public Health Division located at 200 E Chisum St, Roswell, NM 88203, and Bitter Lake Compressor Station located at 33 deg**,** 33 min, 11.001 sec and longitude -104 deg**,** 23 min, 26.9988 sec.

From: Markham, Desiree <Desiree.Markham@enmu.edu>
Sent: Friday, September 3, 2021 7:45 PM
To: Becca Edwards <be@resolutecompliance.com>; Joseline Laureano <jl@resolutecompliance.com>
Subject: Fwd: [EXTERNAL] RE: [EXTERNAL] RE: [EXTERNAL] Air Quality Permit Application - Public Service Announcement

Good evening,

Apologies I was traveling. Here is the attached spot and air time and date.
Air time:11:46:41
September 2, 2021

11:46:41 PLY 02 UWIACX UW IACX PUBLIC SERVICE ANNOUNC

Please let me know if you need anything else.

Happy Labor Day!

Desirée

AFFIDAVIT OF PUBLICATION
STATE OF NEW MEXICO

I, Jennifer Martinez
Legals Clerk

Of the Roswell Daily Record, a daily newspaper published at Roswell, New Mexico do solemnly swear that the clipping hereto attached was published in the regular and entire issue of said paper and not in a supplement thereof for a period of:

One time with the issue dated

September 2, 2021

Clerk

Sworn and subscribed to before me

this 7th day of August, 2021

Notary Public

OFFICIAL SEAL
Claudia Martinez
NOTARY PUBLIC - STATE OF NEW MEXICO
My Commission Expires 4-22-2024

Air Quality Permit Application...

Publish September 2, 2021

NOTICE OF AIR QUALITY PERMIT APPLICATION

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Green House Gas Emissions as Total CO2e	n/a	tpy

The standard and maximum operating schedules of the facility will be from 12:00 a.m. to 12:00 p.m. 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: **Tony Hines; IACX Roswell LLC; 5001 LBJ Freeway, Dallas, Texas, 75244**.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

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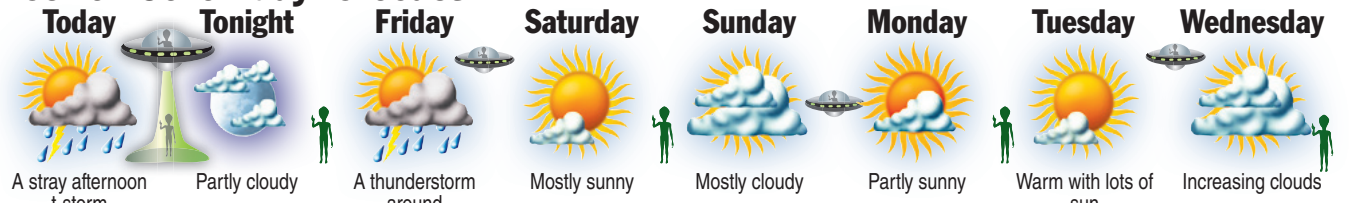
Roswell Seven-day forecast

AccuWeather | Go to AccuWeather.com



Today	Tonight	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday
A stray afternoon t-storm	Partly cloudy	A thunderstorm around	Mostly sunny	Mostly cloudy	Partly sunny	Warm with lots of sun	Increasing clouds
High 91°	**Low 69°**	**92°/69°**	**92°/69°**	**90°/66°**	**92°/65°**	**93°/63°**	**91°/65°**
SSE at 4-8 mph	S at 4-8 mph	S at 4-8 mph	SSE at 4-8 mph	NE at 6-12 mph	ESE at 4-8 mph	ESE at 4-8 mph	SSW at 6-12 mph
POP: 45%	**POP:** 25%	**POP:** 40%	**POP:** 15%	**POP:** 5%	**POP:** 5%	**POP:** 5%	**POP:** 25%

POP: Probability of Precipitation

Almanac

Roswell through 8 p.m. Wednesday

Temperatures

High/low	94°/68°
Normal high/low	92°/66°
Record high	100° in 2020
Record low	45° in 1915
Humidity at noon	32%

Precipitation

24 hours ending 8 p.m. Wed.	0.00"
Month to date	0.00"
Normal month to date	0.05"
Year to date	14.42"
Normal year to date	7.79"

Air Quality Index

Today's Forecast: Moderate

Yesterday's A.Q.I. Reading: 60

0-50	51-100	101-150	151+
Good	Moderate	Unhealthy sensitive	Unhealthy

Source: Texas Commission on Environmental Quality

Sun and Moon

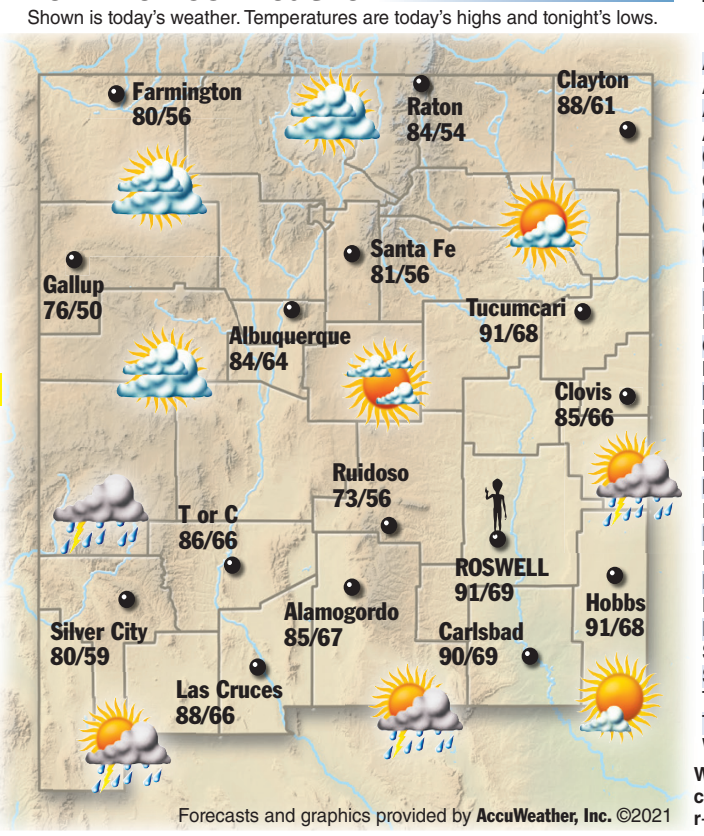
The Sun	Rise	Set
Today	6:33 a.m.	7:22 p.m.
Fri.	6:34 a.m.	7:20 p.m.

The Moon	Rise	Set
Today	1:56 a.m.	4:53 p.m.
Fri.	2:53 a.m.	5:39 p.m.

New	First	Full	Last
Sep 6	Sep 13	Sep 20	Sep 28

New Mexico Weather

Shown is today's weather. Temperatures are today's highs and tonight's lows.



Forecasts and graphics provided by **AccuWeather, Inc.** ©2021

Regional Cities

	Today Hi/Lo/W	Fri. Hi/Lo/W
Alamogordo	85/67/t	88/66/t
Albuquerque	84/64/c	86/66/t
Angel Fire	71/45/pc	72/43/t
Artesia	90/70/t	91/69/t
Carlsbad	90/69/t	92/69/t
Chama	70/46/t	74/45/t
Clayton	88/61/pc	88/63/pc
Cloudcroft	67/50/t	68/52/t
Clovis	85/66/t	87/65/s
Deming	87/64/t	89/65/t
Espanola	82/56/c	83/57/t
Farmington	80/56/c	87/56/t
Gallup	76/50/c	80/50/t
Hobbs	91/68/t	93/67/s
Las Cruces	88/66/t	90/66/t
Las Vegas	82/53/pc	83/56/t
Los Alamos	74/56/pc	77/59/t
Los Lunas	86/61/c	87/65/t
Lovington	91/67/t	92/66/pc
Portales	85/67/t	86/66/s
Prewitt	74/46/c	75/52/t
Raton	84/54/pc	85/54/t
Red River	69/45/c	71/42/t
Roswell	91/69/t	92/69/t
Ruidoso	73/56/t	75/57/t
Santa Fe	81/56/c	85/57/t
Silver City	80/59/t	81/61/t
T or C	86/66/t	89/66/t
Tucumcari	91/68/pc	93/68/s
White Rock	79/56/pc	82/60/t

W-weather, **s**-sunny, **pc**-partly cloudy, **c**-cloudy, **sh**-showers, **t**-thunderstorms, **r**-rain, **sf**-snow flurries, **sn**-snow, **i**-ice

National Cities

	Today Hi/Lo/W	Fri. Hi/Lo/W
Anchorage	61/52/sh	59/53/r
Atlanta	86/67/s	84/67/s
Baltimore	78/56/s	78/58/s
Boston	71/58/r	70/58/pc
Charlotte	84/58/s	82/60/s
Chicago	78/61/s	76/65/t
Cleveland	72/54/s	74/56/pc
Dallas	98/79/s	98/78/s
Denver	80/60/c	82/56/t
Detroit	77/55/s	76/61/pc
El Paso	89/71/t	92/70/t
Honolulu	88/76/sh	88/75/s
Houston	95/76/t	94/77/pc
Indianapolis	78/57/s	77/63/s
Kansas City	83/68/s	81/68/t
Las Vegas	98/77/s	99/79/s
Los Angeles	77/61/pc	82/62/pc
Lubbock	91/72/s	92/73/s

	Today Hi/Lo/W	Fri. Hi/Lo/W
Miami	89/76/pc	90/77/t
Midland	93/72/s	94/72/s
Minneapolis	73/61/c	67/61/pc
New Orleans	90/77/t	89/75/pc
New York	75/59/pc	72/58/s
Omaha	78/67/t	79/63/c
Orlando	87/75/t	90/74/t
Philadelphia	77/58/pc	75/60/s
Phoenix	96/81/pc	100/83/pc
Pittsburgh	73/49/s	74/53/pc
Portland, OR	84/55/s	85/58/s
Raleigh	81/57/s	81/58/s
St. Louis	82/63/s	79/68/t
Salt Lake City	86/61/s	83/58/s
San Diego	75/66/pc	76/67/pc
Seattle	77/53/s	76/57/s
Tucson	90/72/t	90/74/c
Washington, DC	78/60/s	78/62/pc

U.S. Extremes

(For the 48 contiguous states)

High: 104° ..... Zapata, Texas

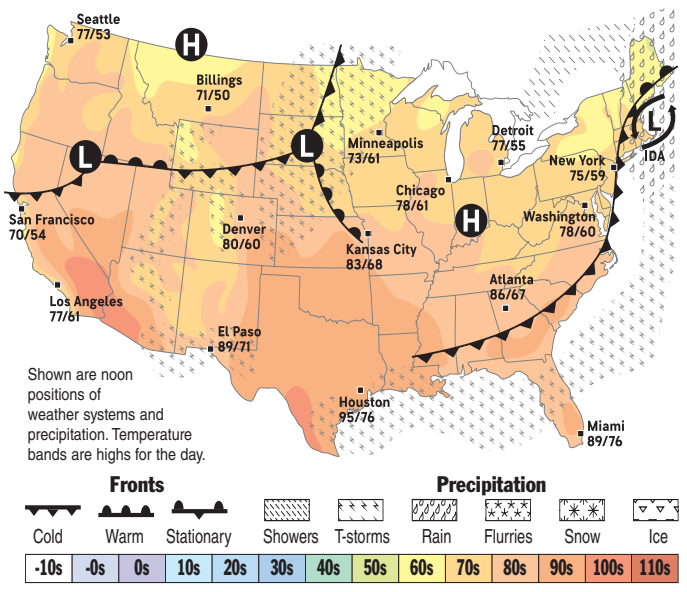
Low: 27° ..... Meacham, Ore.

State Extremes

High: 94° ..... Carlsbad

Low: 37° ..... Angel Fire

National Cities



Lil Nas X honored by anti-suicide group The Trevor Project

By Mark Kennedy
AP Entertainment Writer

NEW YORK — Lil Nas X has been awarded the inaugural Suicide Prevention Advocate of the Year Award from the advocacy group The Trevor Project.

The Trevor Project is a nonprofit dedicated to suicide prevention and crisis intervention for lesbian, gay, bisexual, transgender, queer and questioning young people.

The group cited Lil Nas X's "openness about struggling with his sexuality and suicidal ideation, his continued advocacy around mental health issues, and his unapologetic celebration of his queer identity."

In an interview, Amit Paley, CEO and executive director at The Trevor Project, said the awareness that the "Old Town Road" artist has brought to suicide prevention and mental health has been "profound."

"He has done it in a way that has resonated and impacted communities where these conversations are often taboo, but where they are so needed," Paley said.

"The fact that he has been so open, so vulnerable about his mental health journey, his thoughts of suicide, he is really helping to destigmatize conversations that are too often shrouded in shame."

In February, Lil Nas X shared a series of intimate TikTok videos documenting his life story, including his battle with depression, anxiety and suicidal ideation during his rise to fame. In May, he released a music video which depicts Lil Nas X uplifting a younger version of himself in high school when he was contemplating suicide and struggling to come to terms with his sexuality.

"It's particularly inspiring to see someone who is Black and LGBTQ and proud and unapologetic," said Paley. "And to see someone talk about their experiences with depression and anxiety and suicidal ideation and to talk about those as part of their art and part of their platform to make other people comfortable talking about the challenges that they are going through."

The Trevor Project's national survey on LGBTQ youth mental health in 2021 found that 42% of LGBTQ youth seriously considered attempting suicide in the past year, including more than half of transgender and nonbinary youth.

Paley said the past year has been an especially challenging time for LGBTQ youth, both from a public health perspective and also financially and emotionally. The pandemic may have cut them off from school and resources there for support.

"They might have been trapped in homes with families that were unsupportive or at times rejecting. They might be encountering emotional or even physical abuse or at times thrown out of their homes and experiencing housing instability," said Paley.

"We had a political climate that has been very challenging for LGBTQ people and especially we've seen in states across the country legislation targeting transgender and non-binary young people. All of these things have an impact on people's mental health."

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Green House Gas Emissions as Total CO2e	n/a	tpy

The standard and maximum operating schedules of the facility will be from 12:00 a.m. to 12:00 p.m. 7 days a week and a maximum of 52 weeks per year.

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STATE OF NEW MEXICO

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One time with the issue dated

September 2, 2021

Clerk

Sworn and subscribed to before me

this 2nd day of September, 2021

Notary Public

OFFICIAL SEAL
Claudia Martinez
NOTARY PUBLIC - STATE OF NEW MEXICO
My Commission Expires: 4-27-2022

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Roswell Daily Record • 622-7710

LEGALS

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Publish September 2, 2021

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Public Meeting...

Publish September 2, 2021

NOTICE OF PUBLIC MEETING

Notice is hereby given that a meeting of the Board of Directors of the Colonias Infrastructure Board will convene at 9:00 a.m. on Thursday, September 16, 2021. The meeting location, as well as the method for public attendance, will be posted on the NMFA's website as soon as reasonably practicable due to the Covid-19 public health emergency declared by the Governor of the State of New Mexico.

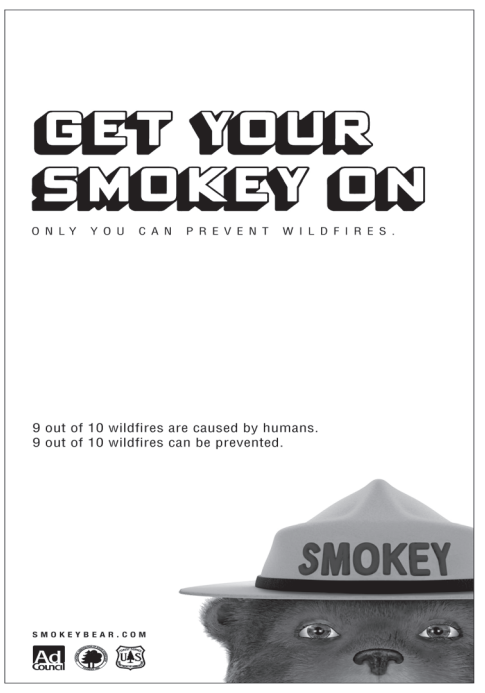
The agenda will be available at least seventy-two hours prior to the meeting from the New Mexico Finance Authority, 207 Shelby Street, Santa Fe, New Mexico, and at www.nmfinance.com. Anyone who has questions regarding the meeting or needs special accommodations should contact Angela Quintana at (505) 992-9648 .

Public documents, including the agenda and minutes, can be provided in various accessible formats. If you are an individual with a disability who is in need of a Reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, or if a summary or other type of accessible format is needed, please contact the NMFA at (505) 984-1454 at least one week prior to the meeting or as soon as possible.

Strategy Board Meeting...

Publish September 2, 2021

The Chaves County Comprehensive Strategy Board will be having a telephone/online conference meeting on Tuesday, September 14, 2021. This meeting will be held at 12:00 pm. The meeting is open to the public. For any additional information on how to attend this meeting, please call 575-624-6596 , Continuum Coordinator. If you are an individual with a disability who is need of a reader, qualified sign language interpreter, or any form of auxiliary aid or service to attend or participate in the hearing of a meeting, please contact the Continuum Coordinator at 575-624-6596 or by email (elly.hollon@chaves.county.gov).



Notice of Sale...

Publish August 26, September 2, 9, 16, 2021

STATE OF NEW MEXICO
COUNTY OF CHAVES
FIFTH JUDICIAL DISTRICT COURT

No. D-504-CV-2020-00680

NEWREZ LLC D/B/A SHELLPOINT MORTGAGE SERVICING,

Plaintiff,

vs.

RICK SANDERS AND MELISSA SANDERS,

Defendants.

NOTICE OF SALE

NOTICE IS HEREBY GIVEN that on September 29, 2021, at the hour of 11:30 AM, the undersigned Special Master, or his designee, will, at the east entrance of the Chaves County Courthouse, at 400 N. Virginia Ave, Roswell, NM 88201, sell all of the rights, title, and interests of the above-named Defendant(s), in and to the hereinafter described real property to the highest bidder for cash. The property to be sold is located at 709 South Pine Avenue, Roswell, New Mexico 88203, and is more particularly described as follows:

LOT FOURTEEN (14) EXCEPT the South 2 feet thereof, in BLOCK FOUR (4) of DAY SUBDIVISION, a subdivision in the City of Roswell, County of Chaves and State of New Mexico, as shown on the Official Plat filed in the Chaves County Clerk's Office on February 5, 1958 and recorded in Book C of Plat Records, Chaves County, New Mexico, at Page 69,

including any improvements, fixtures, and attachments, such as, but not limited to, mobile homes. , (hereinafter the "Property"). If there is a conflict between the legal description and the street address, the legal description shall control.

The foregoing sale will be made to satisfy an in rem foreclosure judgment rendered by this Court in the above-entitled and numbered cause on August 10, 2021, being an action to foreclose a mortgage on the Property. Plaintiff's in rem judgment is in the amount of $109,948.66, and the same bears interest at the rate of 4.00% per annum, accruing at the rate of $12.05 per diem. The Court reserves entry of final in rem judgment against Defendant(s), Rick Sanders and Melissa Sanders, for the amount due after foreclosure sale, including interest, costs, and fees as may be assessed by the Court. Plaintiff has the right to bid at the foregoing sale in an amount equal to its in rem judgment, and to submit its bid either verbally or in writing. Plaintiff may apply all or any part of its in rem judgment to the purchase price in lieu of cash.

In accordance with the Court's decree, the proceeds of sale are to be applied first to the costs of sale, including the Special Master's fees, and then to satisfy the above-described in rem judgment, including interest, with any remaining balance to be paid unto the registry of the Court in order to satisfy any future adjudication of priority lienholders.

NOTICE IS FURTHER GIVEN that in the event that the Property is not sooner redeemed, the undersigned Special Master will, as set forth above, offer for sale and sell the Property to the highest bidder for cash or equivalent, for the purpose of satisfying, in the adjudged order of priorities, the in rem judgment and decree of foreclosure described herein, together with any additional costs and attorney's fees, including the costs of advertisement and publication for the foregoing sale, and, reasonable receiver and Special Master's fees in an amount to be fixed by the Court. The amount of the in rem judgment due is $109,948.66, plus interest to and including date of sale in the amount of $1,277.30, for a total in rem judgment of $111,225.96.

The foregoing sale may be postponed and rescheduled at the discretion of the Special Master, and is subject to all taxes, utility liens and other restrictions and easements of record, and subject to a one (1) month right of redemption held by the Defendant(s) upon entry of an order approving sale, an in rem order of the Court approving the terms and conditions of sale.

Witness my hand this 23rd day of August, 2021.

/s/ David Washburn
DAVID WASHBURN, Special Master
8100 Wyoming Blvd NE
Suite M-4, Box 272
Albuquerque, NM 87113
Telephone: (505) 318-0300
E-mail: sales@nsi.legal

KEEP ROSWELL BEAUTIFUL

Second Notice of Sale...

Publish August 12, 19, 26, September 2, 2021

STATE OF NEW MEXICO
COUNTY OF CHAVES
FIFTH JUDICIAL DISTRICT COURT

No. D-504-CV-2019-00357

NATIONSTAR MORTGAGE LLC D/B/A MR. COOPER,

Plaintiff,

vs.

NATHAN D. KENNARD AKA NATHAN DALE KENNARD AND SECRETARY OF HOUSING AND URBAN DEVELOPMENT,

Defendants.

SECOND NOTICE OF SALE

NOTICE IS HEREBY GIVEN that on October 6, 2021, at the hour of 11:30 AM, the undersigned Special Master, or his designee, will, at the east entrance of the Chaves County Courthouse, at 400 N. Virginia Ave, Roswell, NM 88201, sell all of the rights, title, and interests of the above-named Defendant(s), in and to the hereinafter described real property to the highest bidder for cash. The property to be sold is located at 3701 Bandolina Avenue, Roswell, New Mexico 88201, and is more particularly described as follows:

Lot 9, Block 9 of Tierra Berrenda No. 4 Addition, in the City of Roswell, County of CHAVES and State of New Mexico, as shown on the Official Plat recorded May 4, 1960 in Plat Book C, Page 116, Real Property Records of CHAVES County, New Mexico

including any improvements, fixtures, and attachments, such as, but not limited to, mobile homes,(hereinafter the "Property"). If there is a conflict between the legal description and the street address, the legal description shall control.

The foregoing sale will be made to satisfy a foreclosure judgment rendered by this Court in the above-entitled and numbered cause on September 16, 2019, being an action to foreclose a mortgage on the Property. Plaintiff's judgment is in the amount of $115,417.73, and the same bears interest at the rate of 4.125% per annum, accruing at the rate of $13.04 per diem. The Court reserves entry of final judgment against Defendant(s), Nathan D. Kennard, for the amount due after foreclosure sale, including interest, costs, and fees as may be assessed by the Court. Plaintiff has the right to bid at the foregoing sale in an amount equal to its judgment, and to submit its bid either verbally or in writing. Plaintiff may apply all or any part of its judgment to the purchase price in lieu of cash.

In accordance with the Court's decree, the proceeds of sale are to be applied first to the costs of sale, including the Special Master's fees, and then to satisfy the above-described judgment, including interest, with any remaining balance to be paid unto the registry of the Court in order to satisfy any future adjudication of priority lienholders.

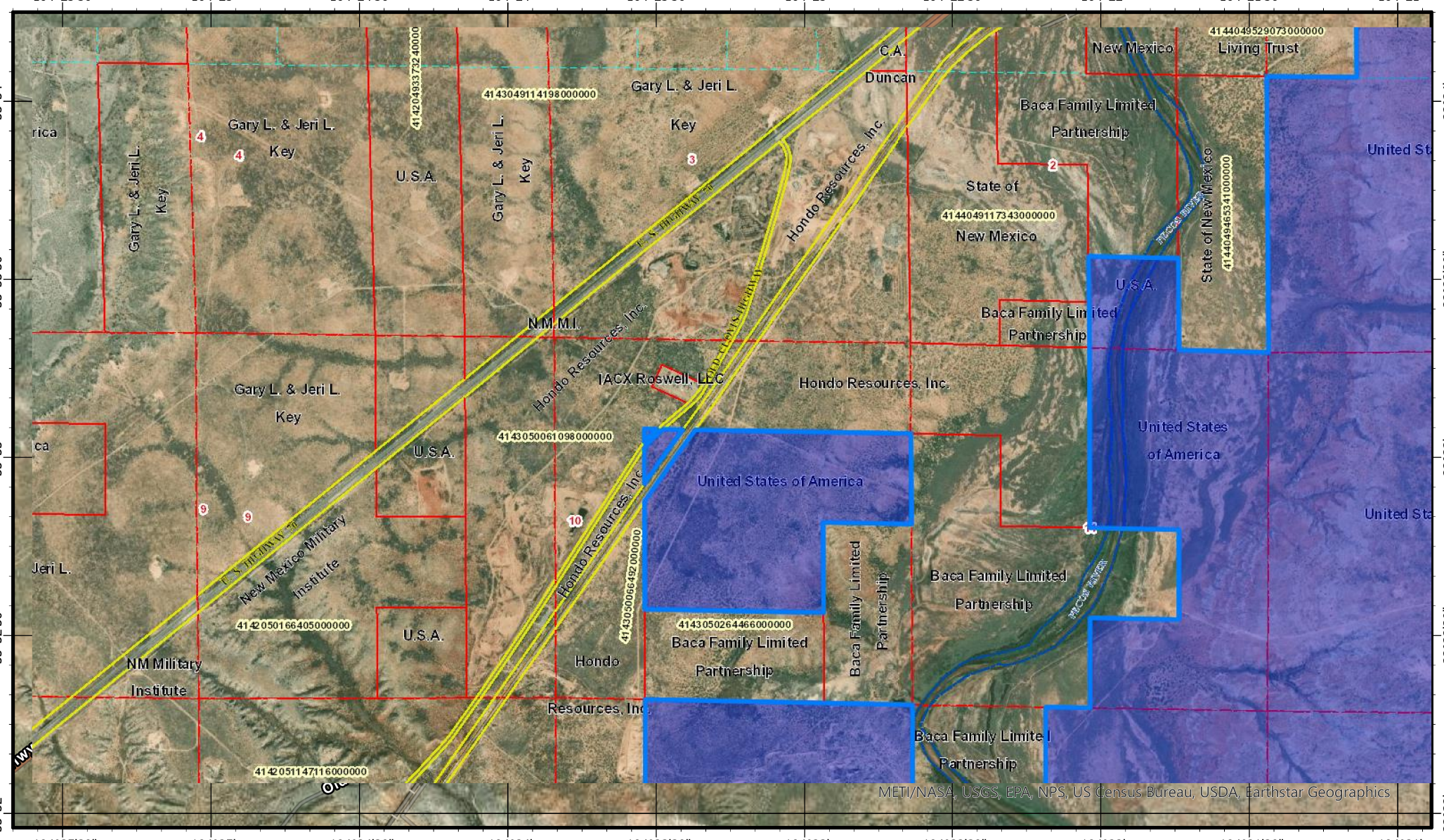
NOTICE IS FURTHER GIVEN that in the event that the Property is not sooner redeemed, the undersigned Special Master will, as set forth above, offer for sale and sell the Property to the highest bidder for cash or equivalent, for the purpose of satisfying, in the adjudged order of priorities, the judgment and decree of foreclosure described herein, together with any additional costs and attorney's fees, including the costs of advertisement and publication for the foregoing sale, and, reasonable receiver and Special Master's fees in an amount to be fixed by the Court. The amount of the judgment due is $115,417.73, plus interest to and including date of sale in the amount of $10,810.16, for a total judgment of $126,227.89.

The foregoing sale may be postponed and rescheduled at the discretion of the Special Master, and is subject to all taxes, utility liens and other restrictions and easements of record, and subject to a one (1) month right of redemption held by the Defendant(s) upon entry of an order approving sale, an order of the Court approving the terms and conditions of sale.

Witness my hand this 10th day of August, 2021.

/s/ David Washburn
DAVID WASHBURN, Special Master
8100 Wyoming Blvd NE
Suite M-4, Box 272
Albuquerque, NM 87113
Telephone: (505) 318-0300
E-mail: sales@nsi.legal

CLASSIFIEDS INDEX



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RESOLUTE COMPLIANCE, LLC
Purposeful Solutions. Unwavering Service.

IACX Roswell LLC
Bitter Lake Compressor Station
Chavez County, NM

Owners Notified

Project No.	**Env-IACX-Bitter Lake CS**
Report No.	**NSR-0005**
Date:	**October 2021**

Section 10

Written Description of the Routine Operations of the Facility

---

A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

Bitter Lake is an extension of a local gas transportation system that gathers casinghead gas from multiple wells in the area. The facility compresses the gas for delivery to a main line. The site operates natural gas-fired engines (Units C-891, C-893, C-894, and C-895) to raise the discharge pressure of the gas in the pipeline to overcome the effect of frictional losses in the pipeline upstream of the station or from pressure losses/changes within the facility in order to maintain the required suction pressure at the next downstream facility. The volume of gas flowing and the amount of subsequent frictional losses in the pipeline are dependent on field conditions and downstream plant conditions causing pressure variations. The glycol dehydrator (Unit BL-GDS-1) has a capacity of 30 MMscf/day and the two associated reboilers operate a 0.75 MMBtu/hr (Units BL-GDR-1a and BL-GDR-2a). Only one of the two reboilers operates under normal operating conditions. The second reboiler may be used either as a backup unit or as a second unit in series to accommodate higher production rates and the resultant increased heat load on the glycol system. The helium recovery unit (Unit HRU) re-injects gas into the pipeline for further separation at another facility further downstream; therefore, there are no emissions associated with the unit. There are three condensate tanks located at the facility (Units TK-1, TK-2, and TK-2a), which contain hydrocarbons and water that drop out of the line prior to compression. There are associated loading emissions with the three condensate and produced water tanks (Unit Load-1 and Load-2). There are also lube oil tanks (Units TK-3 and TK-10) along with used lube oil tanks (Units TK-6 and TK-12). Additional emissions result from facility-wide fugitives (Unit FUG), haul roads (Unit Haul), venting emissions during Startup, Shutdown, and Maintenance (Unit SSM), and Malfunction emissions (Unit M).

Section 11
Source Determination

Source submitting under 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC

Sources applying for a construction permit, PSD permit, or operating permit shall evaluate surrounding and/or associated sources (including those sources directly connected to this source for business reasons) and complete this section. Responses to the following questions shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance, which may be found on the Applications Page in the Permitting Section of the Air Quality Bureau website.

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes. Submission of your analysis of these factors in support of the responses below is optional, unless requested by NMED.

A. Identify the emission sources evaluated in this section (list and describe)**:**

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

☐ **Yes** ☐ **No**

Common Ownership or Control: Surrounding or associated sources are under common ownership or control as this source.

☐ **Yes** ☐ **No**

Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source.

☐ **Yes** ☐ **No**

C. Make a determination:

X The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "**YES**" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "**NO**" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A
PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- X **a minor PSD source before and after this modification (if so, delete C and D below).**
- ☐ **a major PSD source before this modification. This modification will make this a PSD minor source.**
- ☐ **an existing PSD Major Source that has never had a major modification requiring a BACT analysis.**
- ☐ **an existing PSD Major Source that has had a major modification requiring a BACT analysis**
- ☐ **a new PSD Major Source after this modification.**

B. **This facility is not one of the listed 20.2.74.501 Table I – PSD Source Categories. The "project" emissions** for this modification are **not significant. The total emissions from the facility will be less than 250 tpy. The "project" emissions listed below do only result from changes described in this permit application, thus no emissions from other modifications to this facility. Also, specifically discuss whether this project results in "de-bottlenecking", or other associated emissions resulting in higher emissions. The project emissions (before netting) for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:**

a. **NOx: 79.58 TPY**
b. **CO: 76.73 TPY**
c. **VOC: 51.05 TPY**
d. **SOx: 1.53 TPY**
e. **PM: 0.00 TPY**
f. **PM10: 4.33 TPY**
g. **PM2.5: 4.33 TPY**
h. **Fluorides: 0.00 TPY**
i. **Lead: 0.00 TPY**
j. **Sulfur compounds (listed in Table 2): 0.00 TPY**
k. **GHG: 0.00 TPY**

Section 13

Determination of State & Federal Air Quality Regulations

This section lists each state and federal air quality regulation that may apply to your facility and/or equipment that are stationary sources of regulated air pollutants.

Not all state and federal air quality regulations are included in this list. Go to the Code of Federal Regulations (CFR) or to the Air Quality Bureau's regulation page to see the full set of air quality regulations.

Required Information for Specific Equipment:
For regulations that apply to specific source types, in the 'Justification' column **provide any information needed to determine if the regulation does or does not apply**. **For example**, to determine if emissions standards at 40 CFR 60, Subpart IIII apply to your three identical stationary engines, we need to know the construction date as defined in that regulation; the manufacturer date; the date of reconstruction or modification, if any; if they are or are not fire pump engines; if they are or are not emergency engines as defined in that regulation; their site ratings; and the cylinder displacement.

Required Information for Regulations that Apply to the Entire Facility:
See instructions in the 'Justification' column for the information that is needed to determine if an 'Entire Facility' type of regulation applies (e.g. 20.2.70 or 20.2.73 NMAC).

Regulatory Citations for Regulations That Do Not, but Could Apply:
If there is a state or federal air quality regulation that does not apply, but you have a piece of equipment in a source category for which a regulation has been promulgated, you must **provide the low level regulatory citation showing why your piece of equipment is not subject to or exempt from the regulation. For example** if you have a stationary internal combustion engine that is not subject to 40 CFR 63, Subpart ZZZZ because it is an existing 2 stroke lean burn stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, your citation would be 40 CFR 63.6590(b)(3)(i). **We don't want a discussion of every non-applicable regulation, but if it is possible a regulation could apply, explain why it does not. For example,** if your facility is a power plant, you do not need to include a citation to show that 40 CFR 60, Subpart OOO does not apply to your non-existent rock crusher.

Regulatory Citations for Emission Standards:
For each unit that is subject to an emission standard in a source specific regulation, such as 40 CFR 60, Subpart OOO or 40 CFR 63, Subpart HH, include the low level regulatory citation of that emission standard. Emission standards can be numerical emission limits, work practice standards, or other requirements such as maintenance. **Here are examples:** a glycol dehydrator is subject to the general standards at 63.764C(1)(i) through (iii); an engine is subject to 63.6601, Tables 2a and 2b; a crusher is subject to 60.672(b), Table 3 and all transfer points are subject to 60.672(e)(1)

Federally Enforceable Conditions:
All federal regulations are federally enforceable. All Air Quality Bureau State regulations are federally enforceable except for the following: affirmative defense portions at 20.2.7.6.B, 20.2.7.110(B)(15), 20.2.7.11 through 20.2.7.113, 20.2.7.115, and 20.2.7.116; 20.2.37; 20.2.42; 20.2.43; 20.2.62; 20.2.63; 20.2.86; 20.2.89; and 20.2.90 NMAC. Federally enforceable means that EPA can enforce the regulation as well as the Air Quality Bureau and federally enforceable regulations can count toward determining a facility's potential to emit (PTE) for the Title V, PSD, and nonattainment permit regulations.

INCLUDE ANY OTHER INFORMATION NEEDED TO COMPLETE AN APPLICABILITY DETERMINATION OR THAT IS RELEVENT TO YOUR FACILITY'S NOTICE OF INTENT OR PERMIT.

EPA Applicability Determination Index for 40 CFR 60, 61, 63, etc: http://cfpub.epa.gov/adi/

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
20.2.1 NMAC	General Provisions	Yes	Facility	The Bitter Lake Compressor Station will comply with the General Provisions.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	The Bitter Lake Compressor Station will not exceed the maximum allowable concentrations identified in this chapter.
20.2.7 NMAC	Excess Emissions	Yes	Facility	The Bitter Lake Compressor Station has established and implemented a plan to minimize emissions during startup, shutdown and scheduled maintenance.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	This facility does not have new gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit This facility does not have existing gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit
20.2.34 NMAC	Oil Burning Equipment: NO_2	No	N/A	This facility does not have external combustion equipment.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	Yes	Facility	This regulation establishes sulfur emission standards for natural gas processing plants. The proposed facility meets the definition of a new natural gas processing plant under this regulation and is subject to the requirements of this regulation [20.2.35.7 (B) NMAC]. The facility will comply with all requirements under 20.2.35 NMAC as applicable.
20.2.38 NMAC	Hydrocarbon Storage Facility	No	N/A	The Bitter Lake Compressor Station is not a petroleum processing facility; therefore, this section is not applicable.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	The Bitter Lake Compressor Station is not a sulfur recover plant; therefore, this section is not applicable.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	C-891, C-893, C-894, C-895	The visible emissions from the stationary combustion equipment at the Bitter Lake Compressor Station will not exceed an opacity of 20 percent.
20.2.70 NMAC	Operating Permits	No	N/A	The Facility is not a major source. Therefore, this section is not applicable.
20.2.72 NMAC	Construction Permits	No	N/A	The Bitter Lake Compressor Station has previously been issued a construction permit.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	The Bitter Lake Compressor Station has been issued a construction permit and therefore, will submit an emission inventory report annually upon request by the department.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	This regulation establishes requirements for obtaining a prevention of significant deterioration permit. The facility currently does not have the potential to emit greater than 250 tons per year of any criteria pollutant and, therefore, is not subject to this regulation.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	This is a 20.2.73 NMAC application and it is subject to the filing fee at 20.2.75.10 NMAC.
20.2.77 NMAC	New Source Performance	Yes	C-891, C-893, C-894, C-895	This is a stationary source which is subject to the requirements of 40 CFR Part 60.
20.2.78 NMAC	Emission Standards for HAPS	No	Units not Subject to 40 CFR 61	Facility is not subject to the requirements of 40 CFR part 61; therefore, the Bitter Lake Compressor Station is exempt from this rule.
20.2.79 NMAC	Permits – Nonattainment Areas	No	Facility	This regulation establishes the requirements for obtaining a nonattainment area permit. The facility is not located in a non-attainment area and therefore is not subject to this regulation.

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
20.2.80 NMAC	Stack Heights	No	N/A	This regulation establishes requirements for the evaluation of stack heights and other dispersion techniques. This regulation does not apply as all stacks at the facility follow good engineering practice.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	C-891, C-893, C-894, C-895	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63.

Example of a Table for Applicable FEDERAL REGULATIONS (Note: This is not an exhaustive list):

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
40 CFR 50	NAAQS	Yes	Facility	The Bitter Lake Compressor Station complies with the national primary and secondary ambient air quality standards..
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	Units subject to 40 CFR 60	New stationary sources at the Facility will comply with the standards of performance in 40 CFR 60, Subpart A.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for **Electric Utility Steam Generating Units**	No	N/A	This regulation establishes standards of performance for electric utility steam generating units. This regulation does not apply because the facility does not operate any electric utility steam generating units.
NSPS 40 CFR60.40b Subpart Db	**Electric Utility Steam Generating Units**	No	N/A	This regulation does not apply because the facility does not operate any electric utility steam generating units.
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No	N/A	The facility does not have any boilers.
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for **Storage Vessels for Petroleum Liquids** for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and **Prior** to July 23, 1984	No	N/A	Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a storage capacity greater than 151,416 liters (40,000 gallons) that is used to store petroleum liquids for which construction is commenced after May 18, 1978 and prior to July 23, 1984. The condensate tanks at this facility were constructed after July 23, 1984, therefore, this subpart does not apply.
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for **Volatile Organic Liquid Storage**	No	N/A	Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. The tanks at this facility have a design capacity less than or equal to 1,589.874 m3

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
	Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced **After** July 23, 1984			used for petroleum or condensate stored, processed, or treated prior to custody transfer. The tanks are not subject.
NSPS 40 CFR 60.330 Subpart GG	**Stationary Gas Turbines**	No	N/A	The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the lower heating value of the fuel fired. The facility does not contain the affected units. This regulation does not apply.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from **Onshore Gas Plants**	No	N/A	The compressor station is not located at an onshore natural gas processing plant; therefore, this section is not applicable.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for **Onshore Natural Gas Processing**: SO_2 Emissions	No	N/A	The facility is a natural gas processing plant, however, there is not sulfur recovery plant, thus this location does not meet the applicability criteria of 40 CFR 60.640.
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015	No	N/A	The Facility does not have equipment that is subject to 40 CFR 60, Subpart OOOO.
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	Yes	FUG	Since the modification of the Bitter Lake Compressor Station started after the September 18, 2015 applicability date, the fugitive emission components are subject to NSPS OOOOa (per 60.5365a(j)). The facility will follow all applicable standards.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	No	N/A	This facility has stationary spark ignition (SI) internal combustion engines (ICE) which do not meet the criteria listed in the subpart and therefore they are not subject to this regulation.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	No	N/A	This regulation establishes standards of performance for stationary spark ignition internal combustion engines. All engines were manufactured before June 12, 2006 and therefore this standard does not apply.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	The facility does not operate an affected source under this subpart.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	The facility does not operate an affected source under this subpart.
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No	N/A	The facility does not operate an affected source under this subpart.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	NSPS 40 CFR 61 does not apply to the facility because the facility does not emit or have the triggering substances on site and/or the facility is not involved in the triggering activity. The facility is not subject to this regulation. None of the subparts of Part 61 apply to the facility.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for **Mercury**	No	N/A	The facility does not operate an affected source under this subpart.
NESHAP 40 CFR 61 Subpart V	National Emission Standards for **Equipment Leaks** (Fugitive Emission Sources)	No	N/A	This regulation establishes national emission standards for equipment leaks (fugitive emission sources). The facility does not have equipment that operates in volatile hazardous air pollutant (VHAP) service [40 CFR Part 61.240]. The regulated activities subject to this regulation do not take place at this facility. The facility is not subject to this regulation.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	C-891, C-893, C-894,	The engines will comply with MACT 40 CFR 63, Subpart A.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
			C-895	
MACT 40 CFR Subpart HH	**NESHAP for Glycol Dehydrators**	Yes	BL-GDS-1	This subpart applies to owners and operators of emissions points including glycol dehydration units, and storage vessels with the potential for flash emissions This facility is subject to the requirements of 40 CFR 63 Subpart HH, which includes requirements applicable to area sources with TEG Dehydrators. The site is not a major source of hazardous air pollutants (HAPs) but an area source of HAPs and therefore subject to this subpart. The dehydrator has the potential to emit less than 1 tpy (0.90 megagram per year) of benzene, and it is therefore subject to the operating requirements of §63.764(e)(1)(ii).
MACT 40 CFR 63 Subpart HHH		No	N/A	This subpart applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company), and that are major sources of hazardous air pollutants (HAP) emissions as defined in §63.1271. This regulation does not apply because this facility is not a natural gas transmission or storage facility as defined in this regulation [40 CFR Part 63.1270(a)].
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No	N/A	Facility is not a major source of hazardous air pollutants and hence not subject to this regulation.
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	No	N/A	Facility is does not have a coal and oil fire electric utility steam generating unit.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (**RICE MACT**)	Yes	C-891, C-893, C-894, C-895	The engine(s) meet the requirements of MACT ZZZZ.
40 CFR 68	**Chemical Accident Prevention**	No	N/A	This regulation defines compliance assurance monitoring. This regulation does not apply to this facility because the units do not have potential pre-control device emissions that are equal to or greater than 100 tons per year.
Title IV – Acid Rain 40 CFR 72	**Acid Rain**	No	N/A	The facility does not operate an affected source under this subpart.
Title IV – Acid Rain 40 CFR 73	**Sulfur Dioxide** Allowance Emissions	No	N/A	The facility does not operate an affected source under this subpart.
Title IV-Acid Rain 40 CFR 75	**Continuous Emissions Monitoring**	No	N/A	This regulation establishes sulfur dioxide allowance emissions for certain types of facilities. This part does not apply because the facility is not the type covered by this regulation [40 CFR Part 73.2].
Title IV – Acid Rain 40 CFR 76	**Acid Rain** Nitrogen Oxides **Emission**	No	N/A	Except as provided in paragraphs (b) through (d) of this section, the provisions apply to each coal-fired utility unit that is subject to an Acid Rain emissions limitation or reduction requirement for SO2 under Phase I or Phase II pursuant to

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
	Reduction Program			sections 404, 405, or 409 of the Act. This regulation does not apply.
Title VI – 40 CFR 82	Protection of **Stratospheric Ozone**	No	N/A	This regulation establishes an acid rain nitrogen oxides emission reduction program. This regulation applies to each coal-fired utility unit that is subject to an acid rain emissions limitation or reduction requirement for SO2. This part does not apply because the facility does not operate any coal-fired units [40 CFR Part 76.1].

Section 14

Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

☐ **Title V Sources** (20.2.70 NMAC)**:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies** defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

X NSR (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown** defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☐ **Title V** (20.2.70 NMAC)**, NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.

- The Bitter Lake Compressor Station has an NGL Flash Drum planned to ensure offloading of the process streams. In the event that the 3rd party pipeline offloads have issues or outages, and they cannot take the residue gas or NGL, the inlet gas will be appropriately curtailed to ensure that gas is not flared.
- Emission from the condensate tanks and produced water tanks are controlled by the vapor recovery unit (VRU) to reduce VOC emissions.
- The Bitter Lake Compressor Station has modern process and safety systems in place that monitor fire and hazardous gases continuously. The Bitter Lake Compressor Station has fulltime monitors to observe and locate any safety and/or process issues that could result in an incident. This safeguards health and safety of not only the employees working at the facility but the surrounding area and environment.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Alternative Operating Scenarios: Provide all information required by the department to define alternative operating scenarios. This includes process, material and product changes; facility emissions information; air pollution control equipment requirements; any applicable requirements; monitoring, recordkeeping, and reporting requirements; and compliance certification requirements. Please ensure applicable Tables in this application are clearly marked to show alternative operating scenario.

Construction Scenarios: When a permit is modified authorizing new construction to an existing facility, NMED includes a condition to clearly address which permit condition(s) (from the previous permit and the new permit) govern during the interval between the date of issuance of the modification permit and the completion of construction of the modification(s). There are many possible variables that need to be addressed such as: Is simultaneous operation of the old and new units permitted and, if so for example, for how long and under what restraints? In general, these types of requirements will be addressed in Section A100 of the permit, but additional requirements may be added elsewhere. Look in A100 of our NSR and/or TV permit template for sample language dealing with these requirements. Find these permit templates at: https://www.env.nm.gov/aqb/permit/aqb_pol.html. Compliance with standards must be maintained during construction, which should not usually be a problem unless simultaneous operation of old and new equipment is requested.

In this section, under the bolded title "Construction Scenarios", specify any information necessary to write these conditions, such as: conservative-realistic estimated time for completion of construction of the various units, whether simultaneous operation of old and new units is being requested (and, if so, modeled), whether the old units will be removed or decommissioned, any PSD ramifications, any temporary limits requested during phased construction, whether any increase in emissions is being requested as SSM emissions or will instead be handled as a separate Construction Scenario (with corresponding emission limits and conditions, etc.

There are no alternative operating scenarios at Bitter Lake Compressor Station.

Section 16

Air Dispersion Modeling

1) Minor Source Construction (20.2.72 NMAC) and Prevention of Significant Deterioration (PSD) (20.2.74 NMAC) ambient impact analysis (modeling): Provide an ambient impact analysis as required at 20.2.72.203.A(4) and/or 20.2.74.303 NMAC and as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines found on the Planning Section's modeling website. If air dispersion modeling has been waived for one or more pollutants, attach the AQB Modeling Section modeling waiver approval documentation.
2) SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions during routine or predictable startup, shutdown, or maintenance (SSM) using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.
3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. **Note:** Neither modeling nor a modeling waiver is required for VOC emissions.	X
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	
Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)	
Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements.	
Other: i.e. SSM modeling. See #2 above.	
This application does not require modeling since this is a No Permit Required (NPR) application.	
This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC).	
This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling Guidelines.	

Check each box that applies:

☐ See attached, approved modeling **waiver for all** pollutants from the facility.

☐ See attached, approved modeling **waiver for some** pollutants from the facility.

X Attached in Universal Application Form 4 (UA4) is a **modeling report for all** pollutants from the facility.

☐ Attached in UA4 is a **modeling report for some** pollutants from the facility.

☐ No modeling is required.

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

To save paper and to standardize the application format, delete this sentence and the samples in the Compliance Test History Table, and begin your submittal for this attachment on this page.

Compliance Test History Table (Modify this sample table to suit your facility)

Unit No.	Test Description	Test Date
C-891, C-893	Tested in accordance with EPA test methods for NOx and CO as required by Title V permit P500.	4/13/2004
C-894	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	5/12/2005
C-891	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	5/16/2018
C-893	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	6/22/2018
C-893	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	9/25/2019
C-891	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	1/28/2020
C-895	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	4/6/2021
C-894	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	4/6/2021
C-891	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	4/7/2021
C-893	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	5/3/2021
C-895	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	9/9/2021
C-894	Tested in accordance with EPA test methods for NOx and CO as required by NSR permit 2923M1.	9/9/2021

Section 20

Other Relevant Information

Other relevant information. Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

To save paper and to standardize the application format, delete this sentence, and begin your submittal for this attachment on this page.

Section 22: Certification

Company Name: IACX Roswell

I, Justin Wheeler, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 27 day of October, 2021, upon my oath or affirmation, before a notary of the State of Texas.

*Signature

10/27/21
Date

Justin Wheeler
Printed Name

Director of EHS
Title

Scribed and sworn before me on this 27th day of October, 2021.

My authorization as a notary of the State of Texas expires on the 28th day of January, 2024.

Notary's Signature

10-27-2021
Date

Kimberly Elaine Caples
Notary's Printed Name

KIMBERLY ELAINE CAPLES
Notary Public, State of Texas
Comm. Expires 01-28-2024
Notary ID 1981653

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.

Universal Application 4

Air Dispersion Modeling Report

Refer to and complete Section 16 of the Universal Application form (UA3) to assist your determination as to whether modeling is required. If, after filling out Section 16, you are still unsure if modeling is required, e-mail the completed Section 16 to the AQB Modeling Manager for assistance in making this determination. If modeling is required, a modeling protocol would be submitted and approved prior to an application submittal. The protocol should be emailed to the modeling manager. A protocol is recommended but optional for minor sources and is required for new PSD sources or PSD major modifications. Fill out and submit this portion of the Universal Application form (UA4), the "Air Dispersion Modeling Report", only if air dispersion modeling is required for this application submittal. This serves as your modeling report submittal and should contain all the information needed to describe the modeling. No other modeling report or modeling protocol should be submitted with this permit application.

16-A: Identification

1	Name of facility:	Bitter Lake Compressor Station
2	Name of company:	IACX Roswell LLC
3	Current Permit number:	
4	Name of applicant's modeler:	James VanAssche
5	Phone number of modeler:	972-842-4304
6	E-mail of modeler:	jva@resolutecompliance.com

16-B: Brief

1	Was a modeling protocol submitted and approved?	Yes☒	No☐
2	Why is the modeling being done? The purpose of this application is to obtain a minor NSR permit.	Other (describe below)	
3	Describe the permit changes relevant to the modeling.		
	The facility is an existing GCP permit and is being updated to a minor NSR permit due to the proximity to a Class I area.		
4	What geodetic datum was used in the modeling?	NAD83	
5	How long will the facility be at this location?	Permanent Facility	
6	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes☐	No☒
7	Identify the Air Quality Control Region (AQCR) in which the facility is located	155	

8	List the PSD baseline dates for this region (minor or major, as appropriate).			
	NO2	3/16/1988		
	SO2	7/28/1978		
	PM10	2/20/1979		
	PM2.5	11/13/2013		
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).			
	The nearest Class I area is Salt Creek Wilderness located at ~ 1.83 km from the facility.			
10	Is the facility located in a non-attainment area? If so describe below		Yes☐	No☒
11	Describe any special modeling requirements, such as streamline permit requirements.			
	There are no special modeling requirements.			

16-C: Modeling History of Facility

Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQS), and PSD increments modeled. (Do not include modeling waivers).

1	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO	N/A	N/A	Existing GCP/New NSR Facility
	NO_2	N/A	N/A	Existing GCP/New NSR Facility
	SO_2	N/A	N/A	Existing GCP/New NSR Facility
	H_2S	N/A	N/A	Existing GCP/New NSR Facility
	PM2.5	N/A	N/A	Existing GCP/New NSR Facility
	PM10	N/A	N/A	Existing GCP/New NSR Facility
	Lead	N/A	N/A	Facility has no permitted lead emissions
	Ozone (PSD only)	N/A	N/A	Not a PSD Permit
	NM Toxic Air Pollutants (20.2.72.402 NMAC)	N/A	N/A	Facility does not require TAL modeling

16-D: Modeling performed for this application

For each pollutant, indicate the modeling performed and submitted with this application.
Choose the most complicated modeling applicable for that pollutant, i.e., culpability analysis assumes ROI and cumulative analysis were also performed.

1	Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.
	CO	☒	☒	☐	☐	☐
	NO_2	☒	☒	☐	☐	☐
	SO_2	☒	☒	☐	☐	☐

	H_2S	☐	☐	☐	☐	☒
	PM2.5	☒	☒	☐	☐	☐
	PM10	☒	☒	☐	☐	☐
	Lead	☐	☐	☐	☐	☒
	Ozone	☐	☐	☐	☐	☒
	State air toxic(s) (20.2.72.402 NMAC)	☐	☐	☐	☐	☒

16-E: New Mexico toxic air pollutants modeling

1	List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application. N/A

2 List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required. N/A

Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/ Correction Factor

16-F: Modeling options

1	Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes☒	No☐

16-G: Surrounding source modeling

1	Date of surrounding source retrieval	10/1/2021

2 If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, describe how the sources modeled differ from the inventory provided. If changes to the surrounding source inventory were made, use the table below to describe them. Add rows as needed.

AQB Source ID	Description of Corrections
14E25	Point was deleted due to it corresponding to site and avoid double counting source. This was deleted for NO2, PM 10, PM 2.5, and SO2.
14E26	Point was deleted due to it corresponding to site and avoid double counting source. This was deleted for NO2, PM 10, PM 2.5, and SO2.
14E16	Point was deleted due to it corresponding to site and avoid double counting source. This was deleted for NO2, PM 10, PM 2.5, and SO2.
14E17	Point was deleted due to it corresponding to site and avoid double counting source. This was deleted for NO2, PM 10, PM 2.5, and SO2.
14E20	Point was deleted due to it corresponding to site and avoid double counting source. This was deleted for NO2, PM 10, PM 2.5, and SO2.
14E3	Point was deleted due to it corresponding to site and avoid double counting source. This was deleted for NO2, PM 10, PM 2.5, and SO2.

	14E1	Point was deleted due to it corresponding to site and avoid double counting source. This was deleted for NO2.
	14E2	Point was deleted due to it corresponding to site and avoid double counting source. This was deleted for NO2.
	403E1	Source was located over 50 km from site and was too distant to impact grid area. Point was deleted due to it corresponding to site and avoid double counting source. This was deleted for NO2.
	18E3	Point source was not located in the correct location. The coordinates were changed from 557192.75, 3715875.21 to 557000, 3725000.

16-H: Building and structure downwash

1	How many buildings are present at the facility?	There are 3 buildings		
2	How many above ground storage tanks are present at the facility?	There are a number of Tanks/Process Vessels of varied sizes, only those that are within receptors reach where modeled.		
3	Was building downwash modeled for all buildings and tanks? If not explain why below.		Yes☐	No☒
	Tanks are outside of the radius of the sources.			
4	Building comments			

16-I: Receptors and modeled property boundary

1	"Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility. Describe the fence or other physical barrier at the facility that defines the restricted area.						
	The restricted area is defined by a fence with an entry gate.						
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?					Yes☐	No☒
3	Are restricted area boundary coordinates included in the modeling files?					Yes☒	No☐
4	Describe the receptor grids and their spacing. The table below may be used, adding rows as needed.						
	Grid Type	Shape	Spacing	Start distance from restricted area or center of facility	End distance from restricted area or center of facility	Comments	
	Cartesian	Rectangular	50	0	500		
	Cartesian	Rectangular	100	500	1000		
	Cartesian	Rectangular	500	1000	5000		
	Cartesian	Rectangular	1000	5000	15000		
	Describe receptor spacing along the fence line.						

5	The restricted area is defined by a fence with 50-meter grid spacing.
6	Describe the PSD Class I area receptors. Receptors are spread out throughout the Class 1, Salt Creek Wilderness, area due to proximity to site.

16-J: Sensitive areas

1	Are there schools or hospitals or other sensitive areas near the facility? If so describe below. This information is optional (and purposely undefined) but may help determine issues related to public notice.	Yes☐	No☒
3	The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application?	Yes☐	No☒

16-K: Modeling Scenarios N/A

1	Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3).											
	Sources are intended to run loads as close to 100 percent.											
2	Which scenario produces the highest concentrations? Why?											
3	Were emission factor sets used to limit emission rates or hours of operation? (This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.)							Yes☐		No☒		
4	If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.) Sources:											
5	Hour of Day	Factor	Hour of Day	Factor								
	1		13									
	2		14									
	3		15									
	4		16									
	5		17									
	6		18									
	7		19									
	8		20									

	9		21									
	10		22									
	11		23									
	12		24									
	If hourly, variable emission rates were used that were not described above, describe them below.											
	N/A											
6	Were different emission rates used for short-term and annual modeling? If so describe below.									Yes☐		No☒

16-L: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply.	
	☐	ARM2
	☒	100% NO_X to NO_2 conversion
	☐	PVMRM
	☐	OLM
	☐	Other:
2	Describe the NO_2 modeling.	
	NO2 was modeled using 100% NOx and NO2 conversion.	
3	Were default NO_2/NO_X ratios (0.5 minimum, 0.9 maximum or equilibrium) used? If not describe and justify the ratios used below.	Yes☐ No☒
	Assumed 100 percent NOx to NO2 conversion.	
4	Describe the design value used for each averaging period modeled.	
	1-hour: 98th percentile as calculated by AERMOD Annual: One Year Annual Average	

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.	
	☐	PM2.5
	☐	PM10
	☒	None
2	Describe the particle size distributions used. Include the source of information.	
	N/A – No particle size distributions were used.	
3	Does the facility emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2? Sources that emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2 are considered to emit significant amounts of precursors and must account for secondary formation of PM2.5.	Yes☒ No☐

4	Was secondary PM modeled for PM2.5?		Yes☐	No☒
5	If MERPs were used to account for secondary PM2.5 fill out the information below. If another method was used describe below.			
	NO_X (ton/yr)	SO_2 (ton/yr)	$[PM2.5]_{annual}$	$[PM2.5]_{24\text{-}hour}$
	80.23	1.53	0.005173	0.091516

16-N: Setback Distances

1	Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location.
	NA
2	Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling.
	NA

16-O: PSD Increment and Source IDs

1	The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match? If not, provide a cross-reference table between unit numbers if they do not match below.			Yes☒	No☐
	Unit Number in UA-2		Unit Number in Modeling Files		
2	The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match? If not, explain why below.			Yes☒	No☐
3	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?			Yes☐	No☒
4	Which units consume increment for which pollutants? All sources were modeled to consume increment for all applicable pollutants.				
	Unit ID	NO_2	SO_2	PM10	PM2.5
	C-891		X	X	
	C-893		X	X	
	C-894	X	X	X	
	C-895	X	X	X	
5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).		PSD Increment was modeled by using baseline dates (3/16/1988 for NO2, 7/28/1978 for SO2, 2/20/1979 for PM10, and 11/13/2013 for PM2.5). Once those were established, the pollutants were run for their respective time		

		(Annual, 24-Hour, and/or 3-Hour). Each surrounding source was added to the run that it applied to.	
6	Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling. If not please explain how increment consumption status is determined for the missing installation dates below.	Yes☒	No☐

16-P: Flare Modeling N/A

1	For each flare or flaring scenario, complete the following			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)

16-Q: Volume and Related Sources N/A

1	Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines? If not please explain how increment consumption status is determined for the missing installation dates below.	Yes☐	No☐
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources.		
3	Describe how the volume sources are related to unit numbers. Or say they are the same.		
4	Describe any open pits.		
5	Describe emission units included in each open pit.		

16-R: Background Concentrations

1	Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used.	Yes☒	No☐
	CO: Del Norte High School (350010023)		

	NO_2: Hobbs-Jefferson (350250008)	
	PM2.5: Hobbs-Jefferson (350450019)	
	PM10: Hobbs-Jefferson (350250008)	
	SO_2: Amarillo (483751025)	
	Other:	
	Comments:	
2	Were background concentrations refined to monthly or hourly values? If so describe below.	Yes☒ No☐
	The corresponding background concentration was used for each run.	

16-S: Meteorological Data

1	Was NMED provided meteorological data used? If so select the station used. Hobbs 2014-2018 was used.	Yes☒	No☐
2	If NMED provided meteorological data was not used describe the data set(s) used below. Discuss how missing data were handled, how stability class was determined, and how the data were processed.		

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.	Yes☒	No☐
2	What was the source of the terrain data?		
	NED 1/3 (USA ~10)		

16-U: Modeling Files

1

Describe the modeling files:
Modeling was conducted for all applicable sources and their respective time.

File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
CO 1hr	CO	Cumulative NAAQS
NO2 24Hr	NO2	Cumulative NMAAQS
NO2 Annual	NO2	Cumulative NMAAQS and NAAQS
PM25	PM2.5	Cumulative NAAQS
PM10	PM10	Cumulative NAAQS
SO2 24 Hr	SO2	Cumulative NMAAQS and NAAQS
SO2 Annual	SO2	Cumulative NMAAQS and NAAQS
NO2 Annual INC	NO2	Increment

	PM10 INC	PM10	Increment
	PM25 INC	PM2.5	Increment
	SO2 24 HR INC	SO2	Increment
	SO2 Annual INCR	SO2	Increment

16-V: PSD New or Major Modification Applications N/A

1	A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)?	Yes☐	No☐
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes☐	No☐
3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption.		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC.		
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below.	Yes☐	No☐

16-W: Modeling Results

1	If ambient standards are exceeded because of surrounding sources, a culpability analysis is required for the source to show that the contribution from this source is less than the significance levels for the specific pollutant. Was culpability analysis performed? If so describe below.	Yes☐	No☒
2	Identify the maximum concentrations from the modeling analysis. Rows may be modified, added and removed from the table below as necessary.		

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
CO, NAAQS, 8 – Hour	16.36301	NA	NA	1524	1540.36301	10303.6	14.949	556592.45	3712795.66	1082.52
CO, NAAQS, 1 – Hour	31.67561	NA	NA	2203	2234.67561	40069.6	5.576	556584.19	3712809.50	1082.68
NO2, NMAAQS, Annual	2.43205	NA	NA	8.1	10.53205	94.02	11.201	556547.47	3712816.58	1082.5
NO2, NMAAQS, 24 – Hour	8.63377	NA	NA	NA	8.63377	188.03	4.591	556584.19	3712809.50	1082.5
NO2, NAAQS, 1 – Hour	25.42112	NA	NA	64.2	89.62112	188.03	47.663	556584.19	3712809.50	1082.5
PM2.5, NAAQS, Annual	2.43205	NA	NA	5.9	8.33205	12	69.433	556547.47	3712816.58	1082.5
PM2.5, NAAQS, 24 – Hour	6.35683	NA	NA	13.4	19.75683	35	18.162	556547.47	3712816.58	1082.5
PM10, Annual	2.43205	NA	NA	24.0	26.43205	NA	NA	556547.47	3712816.58	1082.5

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
PM10, NAAQS, 24 – Hour	6.35683	NA	NA	37.3	43.65683	150	29.104	556547.47	3712816.58	1082.5
SO2, NMAAQS, Annual	2.43205	NA	NA	0.670	3.10205	52.4	5.919	556547.47	3712816.58	1082.5
SO2, NMAAQS, 24 – Hour	8.63377	NA	NA	NA	8.63377	261.9	3.296	556484.19	3712709.50	1082.5
SO2, NAAQS, 3 – Hour	24.47196	NA	NA	NA	24.47196	1309.3	1.869	556494.10	3712738.35	1082.5
SO2, NAAQS, 1 – Hour	28.69366	NA	NA	47.0	75.69366	196.4	38.540	556584.19	3712809.50	1082.5
NO2, Class II PSD Increment, Annual	2.386	3.25543	NA	NA	5.64143	25	22.565	546484.19	3705809.50	1096.61
NO2, Class I PSD Increment, Annual	0	0.41	NA	NA	0.41	2.5	1.639	550484.19	3716809.50	1086.55
PM10, Class II PSD Increment, Annual	2.43205	2.43515	NA	NA	4.8672	17	28.630	556547.47	3712816.58	1082.5
PM10, Class I PSD Increment, Annual	0.02	0.02	NA	NA	0.04	4	1	556484.19	3714809.50	1088.49

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
PM10, Class II PSD Increment, 24 – Hour	6.35683	6.36467	NA	NA	12.7215	30	42.405	556547.47	3712816.58	1082.5
PM10, Class I PSD Increment, 24 – Hour	0.1	0.1	NA	NA	0.2	8	2.5	556484.19	3714809.50	1088.49
SO2, Class II PSD Increment, Annual	2.43205	2.48095	NA	NA	4.913	20	24.565	556547.47	3712816.58	1082.5
SO2, Class I PSD Increment, Annual	0.02	0.07	NA	NA	0.09	2	4.5	550484.19	3716809.50	1086.55
SO2, Class II PSD Increment, 24 – Hour	8.63377	17.42467	NA	NA	26.05844	91	28.635	546484.19	3705809.50	1096.61
SO2, Class I PSD Increment, 24 – Hour	0.17	0.72	NA	NA	0.89	5	17.8	552984.19	3714809.50	1083.4
SO2, Class II PSD Increment, 3 – Hour	24.47196	88.99105	NA	NA	113.46301	512	22.160	546484.19	3705809.50	1096.61

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
SO2, Class I PSD Increment, 3 – Hour	0.96	4.55	NA	NA	5.5	25	22.00	552984.19	3714809.50	1083.4
PM2.5, Secondary Formation, Annual	0	0	0.005173	NA	0.005173	4	0.12	555484.19	3704809.50	1065
PM2.5, Secondary Formation, 24 – Hour	0	0.01	0.091516	NA	0.101516	9	1.12	555484.19	3704809.50	1065

16-X: Summary/conclusions

	A statement that modeling requirements have been satisfied and that the permit can be issued.
1	This air quality modeling analysis implemented the advanced air dispersion mechanics of the AERMOD dispersion model. The use of AERMOD allowed for the use of the most recent meteorology, modern characterization of the PBL, and consideration of the complex terrain ground receptors surrounding the plant. The emissions from the site were shown to be in compliance with all of the NAAQS and increments.